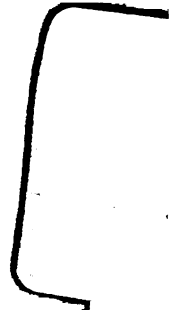


CATALOGUE

OF THE

University of Vermont

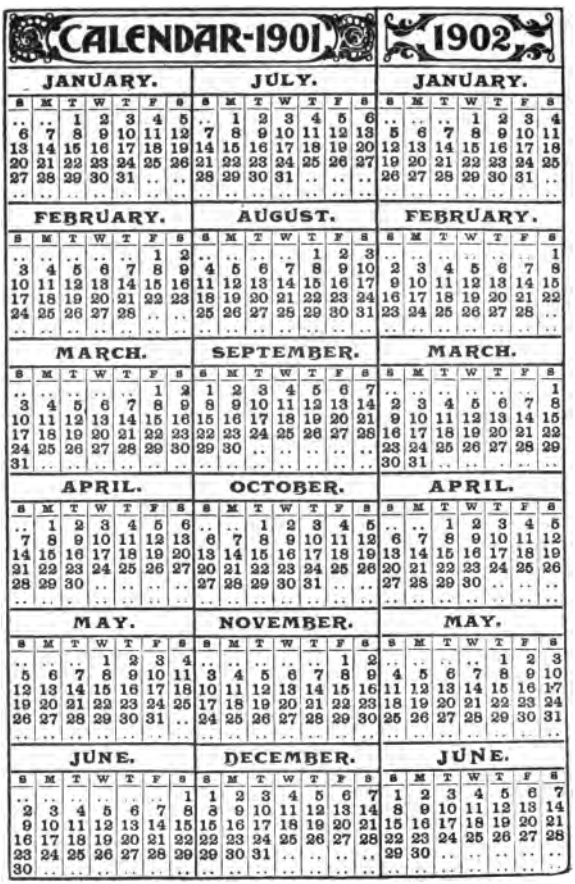
AND

STATE AGRICULTURAL COLLEGE

BURLINGTON VERMONT

1900-1901

BURLINGTON
FREE PRESS ASSOCIATION
PUBLISHERS, PRINTERS AND BOOKBINDERS
1900


CALENDAR-1901
1902
JANUARY.
JULY.
JANUARY.
FEBRUARY.
AUGUST.
FEBRUARY.
MARCH.
SEPTEMBER.
MARCH.
APRIL.
OCTOBER.
APRIL.
MAY.
NOVEMBER.
MAY.
JUNE.
DECEMBER.
JUNE.

CALENDAR

1900	DEPARTMENTS OF ARTS AND SCIENCES	
26 Sept.	Wednesday A. M.	First half-year began
29 Nov.	Thursday	Thanksgiving Day
	Christmas Recess	From Friday evening, Dec. 21, to Thursday noon, Jan. 3.
1901		
28 Jan.	Monday	Mid-year Examinations begin
10 Feb.	Sunday	Day of Prayer for Colleges
11 Feb.	Monday	Second half-year begins
	Spring Recess	From Friday evening, March 29, to Tuesday noon, April 9
1 May	Wednesday	Founder's Day
3 "	Friday 8 P. M.	Prize Reading for Women Students
30 "	Thursday	Memorial Day
10 June	Monday	Final Examinations begin
23 "	Sunday 3 P. M.	Baccalaureate Discourse
23 "	" 7:30 P. M.	Anniversary of Y. M. C. A.
24 "	Monday	Class Day
25 "	Tuesday 9 A. M.	Meeting of Phi Beta Kappa Society
25 "	" 10 A. M.	Meeting of Associate Alumni
25 "	" 1.30 P. M.	Meeting of Athletic Association
25 "	" 3 P. M.	Oration before Phi Beta Kappa
25 "	" 7:30 P. M.	Prize Speaking
26 "	Wednesday	Commencement
27 "	Thursday 9 A. M.	Entrance Examinations
	SUMMER VACATION	
24 Sept.	Tuesday 9 A. M.	Entrance Examinations
25 "	Wednesday 8:15 A. M.	First half-year begins
5 Oct.	Saturday	Freshmen Prize Entrance Examinations begin
1901	DEPARTMENT OF MEDICINE	
3 Jan.	Thursday	Lectures begin
27 June	Thursday	Exercises of Graduation

HISTORY AND CHARTERS

"An Act for the purpose of Founding a University at Burlington" was passed by the Legislature of Vermont, Nov. 2nd, 1791, of which the following are the Preamble and First Section :

"Whereas the education of youth is necessary for the advancement of morality, virtue and happiness, and tends to render a people or State respectable ; to promote which, establishments for Seminaries and Colleges have ever been patronized by all good governments ; and whereas several grants of land have already been made by the State and private liberal donations have been offered, for promoting so needful an establishment within the same, which demand the attention of this Legislature for laying the foundation for an institution so beneficent to society ; therefore,

Section I. It is hereby enacted by the General Assembly of the State of Vermont, that there shall be and hereby is a College instituted and established at such a place in the township of Burlington in the County of Chittenden as the Corporators hereinafter named shall think most convenient for that purpose, to be known and designated by the style of THE UNIVERSITY OF VERMONT."

A subsequent Act gave the Corporators of the University "full power, right, and authority to appropriate to the use and benefit of the said University forever all such lands as have been already granted and reserved by the authority of this State for the use and benefit of a College."

The Act of Incorporation vested in the Trustees of the University of Vermont full power "to appoint, elect, support and remove from time to time, all such officers and servants as they shall find necessary ; to direct the studies of the youth ; to establish professorships and professors, and provide for their support ; to make and establish all necessary rules, regulations and by-laws, for the orderly government of said University (provided always that the said rules, regulations and by-laws shall not tend to give preference to any religious sect or denomination whatsoever); to grant and confer all such degrees, literary titles, honors and other distinctions as other Uni-

versities, Colleges or Seminaries have done or may of right do; and to do any other thing which shall be found necessary for the government and welfare of such an institution."

With the consent of the Corporation certain changes were made by the Legislature in respect to the number and the mode of election of the trustees of the University by Acts passed Nov. 2nd, 1810, and Oct. 31st, 1823; but these were, with like consent, repealed by the Act of Oct. 30th, 1838, which revived and confirmed the provisions of the original charter, which charter remains in full force at the present time, with such modifications as the Corporation of the University accepted in 1865, in accordance with the provisions of the charter of the University of Vermont and State Agricultural College.

In 1862, largely through the exertions of Hon. Justin S. Morrill, then Representative and since Senator from Vermont, Congress passed an "Act donating public lands to the several States and Territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts." Under the provisions of this Act, the Legislature of Vermont chartered in 1862 the Vermont Agricultural College, which, failing to receive the support necessary to put it into operation, was by an Act approved Nov. 6, 1865, incorporated with the University of Vermont into one institution by the name of "The University of Vermont and State Agricultural College." This corporation is invested with the property, rights, powers and privileges which belonged to both or either of the corporations so combined, and "shall be and remain a body corporate forever, for the purpose of carrying out the objects contemplated in the respective charters" of the two institutions.

The "objects contemplated" in the charter of the Vermont Agricultural College are stated in the exact language of the Act of Congress providing for Colleges of Agriculture and the Mechanic Arts, as follows:

"The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic

arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The objects contemplated in the charter of the University of Vermont are stated in the Preamble and Sections as given above.

The charter of the University of Vermont and State Agricultural College requires that "there shall, at all times, be maintained in the institution hereby created such instruction in the various branches of learning as is contemplated in the several charters of each of the institutions hereby united; and more particularly including a four years' course of studies, similar to such as are generally taught in other colleges and not inferior to that recently taught in said University of Vermont; and in addition to that which is usually taught in other colleges, the instruction in this institution shall include such enlarged facilities, and extended scope and variety in the study of those branches which relate to military tactics, agriculture and the mechanic arts, as shall render the whole instruction in conformity with said Act of Congress, as well as with the several charters aforesaid."

Section II of the Charter provides that, for the purpose of receiving property by gift, grant, bequest or otherwise, and for certain other purposes therein specified, each of the original corporations shall be deemed and treated as having continued in life.

Gifts and bequests may therefore be made to (1) the University of Vermont, (2) The Vermont Agricultural College, (3) The University of Vermont and State Agricultural College.

By the provisions of

"An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts, established under the provisions of an Act of Congress approved July second, eighteen hundred and sixty-two," the institution receives from the United States Treasury an annual appropriation to be applied "only to instruction in Agriculture, the Mechanic Arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

BOARD OF TRUSTEES

MATTHEW HENRY BUCKHAM, D. D., LL. D., President
HIS EXCELLENCY WILLIAM WALLACE STICKNEY, Governor of the State } EX-OFFICIO

ON THE PART OF THE UNIVERSITY OF VERMONT

HON. GEORGE GRENVILLE BENEDICT, A. M. *Burlington*
HON. HORACE HENRY POWERS, A. M. *Morrisville*
JOHN HEMAN CONVERSE, LL. D. *Philadelphia, Pa.*
HON. TORREY ENGLESBY WALES, A. B. *Burlington*
HON. ELIAS LYMAN, A. M. *Burlington*
HON. ROBERT ROBERTS, A. B. *Burlington*
WILLIAM SEWARD WEBB, M. D. *Shelburne*
HON. DARWIN PEARL KINGSLEY, A. M. *New York City*
HON. BENJAMIN FRANKLIN FIFIELD, A. B. *Montpelier*

ON THE PART OF THE VERMONT AGRICULTURAL COLLEGE

HON. NELSON WILBUR FISK, *Isle La Motte*
HON. REDFIELD PROCTOR, A. M. *Proctor*
HON. EBENEZER JALLS ORMSBEE, A. M. *Brandon* } 1895–1901

HON. WM. PAUL DILLINGHAM, A. M. *Montpelier*
HON. GEORGE THRALL CHAFFEE *Rutland*
HON. HENRY CLAY CLEVELAND *Coventry* } 1897–1903

GARDNER SMITH FASSETT *Enosburgh*
HON. CASSIUS PECK *Burlington*
ROBERT JACKSON KIMBALL *Randolph* } 1899–1905

HON. GEORGE GRENVILLE BENEDICT, A. M. SECRETARY
HON. EDWARD HENRY POWELL, A. M. *166 College St.* TREASURER

EXECUTIVE COMMITTEE

MATTHEW HENRY BUCKHAM
GEORGE GRENVILLE BENEDICT
TORREY ENGLESBY WALES
ELIAS LYMAN
ROBERT ROBERTS

FINANCE COMMITTEE

TORREY ENGLESBY WALES
ELIAS LYMAN
CASSIUS PECK

BOARD OF CONTROL OF THE EXPERIMENT STATION

MATTHEW HENRY BUCKHAM
EBENEZER J. ORMSBEE
GARDNER S. FASSETT
CASSIUS PECK

OFFICERS OF INSTRUCTION AND GOVERNMENT

	Residence
Matthew Henry Buckham, D. D., LL. D. President	23 University Place
John Ordronaux, M. D., LL. D. Professor Emeritus of Medical Jurisprudence	Roslyn, N. Y.
Rev. Henry Augustus Pearson Torrey, LL. D. Marsh Professor of Intellectual and Moral Philosophy and Dean of the Department of Arts	75 S. Prospect St.
Volney Giles Barbour, Ph. B., C. E. Flint Professor of Mechanics and Bridge Engineering and Dean of the Department of Engineering	90 N. Prospect St.
George Henry Perkins, Ph. D. Howard Professor of Natural History and Dean of the Department of Natural Sciences	205 S. Prospect St.
Rev. John Ellsworth Goodrich, D. D. Professor of Latin	483 Main St.
Albert Freeman Africanus King, A. M., M. D. Professor of Obstetrics and Diseases of Women	Washington, D. C.
Samuel Franklin Emerson, Ph. D. Professor of History	56 Summit St.
John Henry Jackson, A. M., M. D. Professor of Physiology and Microscopic Anatomy	Barre
Nathan Frederick Merrill, Ph. D. Pomeroy Professor of Chemistry	1 S. College
Joel Williston Wright, A. M., M. D. Professor Emeritus of Surgery	New York City
Archibald Lamont Daniels, Sc. D. Williams Professor of Mathematics	34 N. Prospect St.
Lewis Jurey Huff, A. M. Professor of German	226 Loomis St.

JOSIAH WILLIAM VOTEY, C. E. Professor of Civil Engineering	178 S. Prospect St
LEWIS RALPH JONES, Ph. B. Professor of Botany	43 S. Prospect St.
ARTHUR WHITTIER AYER, B. S. Professor of Mechanical Engineering	25 Colchester Ave.
JOSEPH LAWRENCE HILLS, B. S. Professor of Agricultural Chemistry and Dean of the Department of Agriculture	59 N. Prospect St.
HENRY CRAIN TINKHAM, M. D. Professor of General and Special Anatomy and Dean of the Medical Faculty	46 N. Winooski Ave.
FREDERICK TUPPER, JR., Ph. D. Professor of Rhetoric and English Literature	204 S. Willard St.
ALLISON WING SLOCUM, A. M. Professor of Physics	295 Maple St.
GEORGE EDWIN HOWES, Ph. D. Professor of Greek and Secretary of the Faculty	98 S. Willard St.
FRANK ALBERT WAUGH, M. S. Professor of Horticulture	52 N. Prospect St.
WILLIAM HORATIO FREEDMAN, C. E., E. E. Professor of Electrical Engineering	222 S. Union St.
JOHN BROOKS WHEELER, A. B., M. D. Professor of Surgery	210 Pearl St.
JAMES NATHANIEL JENNE, M. D. Professor of Materia Medica and Therapeutics and of Clinical Medicine	St. Albans
ALOYSIUS O. J. KELLY, M. D. Professor of Theory and Practice of Medicine	Philadelphia
PATRICK EUGENE MCSWEENEY, M. D. Adjunct Professor of Obstetrics	46 N. Champlain St.
FREDERICK RUBERT STODDARD, M. D. Adjunct Professor of Materia Medica	Shelburne
LYMAN ALLEN, A. B., M. D. Adjunct Professor of Physiology	288 Main St.
HENRY AUGUSTUS TORREY, Ph. D. Assistant Professor of Chemistry	75 S. Prospect St.

HARRIS RALPH WATKINS, A. B., M. D. — 42 N. Winooski Ave.
Adjunct Professor and Demonstrator of Anatomy

HORACE L. WHITE, B. S. — Portland, Me.
Professor pro tempore of Chemistry (Med.)

ARTHUR DEXTER BUTTERFIELD, M. S. — 86 Williams St.
Assistant Professor of Mathematics (Engin.)

SPECIAL PROFESSORS IN MEDICAL DEPARTMENT

RUDOLPH AUGUST WITTHAUS, A. M., M. D. — New York City
Professor of Toxicology

JUDSON EARL CUSHMAN — 31 School St.
Professor of Medical Jurisprudence

AUGUSTUS PALMER DUDLEY, M. D. — New York City
Professor of Surgical Diseases of Women

MARSHALL COLEMAN TWITCHELL, M. D. — 162 College St.
Professor of Diseases of the Eye, Ear and Throat

EUGENE FULLER, M. D. — New York City
Professor of Genito-Urinary and Venereal Diseases

HENRY DWIGHT CHAPIN, A. M., M. D. — New York City
Professor of Diseases of Children

OTTO H. SCHULTZE, A. M., M. D. — New York City
Professor of Pathology

ELLICE MURDOCK ALGER, A. B., M. D. — New York City
Professor of Dermatology

AURELIUS R. SHANDS, A. M., M. D. — Washington, D. C.
Professor of Orthopædics

EDWARD W. TAYLOR, A. M., M. D. — Boston, Mass.
Professor of Diseases of the Nervous System

WALTER D. BERRY, M. D. — Waterbury
Professor of Diseases of the Mind

FOLLEN CABOT, JR., M. D. — New York City
Assistant to the Chair of Genito-Urinary Diseases

INSTRUCTORS

FRANK ABIRAM RICH, V. S., M. D. Instructor in Veterinary Medicine	90 S. Union St.
JAMES EATON Instructor in Shop Work	170 N. Prospect St.
CARROLL WARREN DOTEN, A. M. Instructor in Elocution, Secretary and Registrar	298 S. Union St.
CHARLES FLAGG WHITNEY, B. S. Instructor in Chemistry	88 S. Willard St.
ELBRIDGE CHURCHILL JACOBS, B. S. Instructor in Mineralogy, Assaying and Quantitative Analysis	32 M. Converse Hall
FREDERICK ELLSWORTH CLARKE, M. D. Instructor in Obstetrics and Gynæcology	88 College St.
HORATIO NELSON JACKSON, M. D. Instructor in Surgery	158 S. Willard St.
SAMUEL ERASTUS MAYNARD, M. D. Instructor in Theory and Practice of Medicine and in Physical Diagnosis	73 Pine St.
CLIFTON DURANT HOWE, A. B. Instructor in Biology	89 N. Prospect St.
WILLIAM DINSMORE BRIGGS, Ph. D. Instructor in English and German	42 M. Converse Hall
CHARLES EDWARD SEAMAN, A. M. Instructor in Political Economy and Constitutional Law	267 Pearl St.
WILLIAM SOLOMON HAYES, A. B. Instructor in French and Romance Languages	21 S. Converse Hall
OSCAR RAYMOND WILSON, M. E. Instructor in Mechanical Engineering	21 N. Converse Hall
WILBUR ALDEN COIT, Ph. B. Instructor in Mathematics	58 S. Willard St.
WILBUR CYRUS SAWYER, B. S. Instructor in Drawing	Essex Junction
EVERARD ALLEN WILSON, M. D. Assistant Demonstrator of Anatomy	Belfast, Me.
GEORGE EDDIE HUMPHREY	72 Greene St.
DUNCAN STUART, B. S. Instructors in Dairying	59 N. Prospect St.

OTHER OFFICERS

EDITH EMILY CLARKE, Ph. B. Librarian	120 Buell St.
PROFESSOR BARBOUR Superintendent of Buildings and Grounds	90 N. Prospect St.
PROFESSOR PERKINS Curator of Museum	205 S. Prospect St.
MARY RUSSELL BATES, Ph. B. Cataloguer	31 Loomis St.
H. STANLEY RENAUD	
GRATON S. BRAND	
HARRIS D. MCDONALD Assistants in Chemical Laboratory	
LEONARD PEARSONS SPRAGUE Assistant in Botanical Laboratory	
JOSEPHINE ADELAIDE MARSHALL Organist	
WILLIAM EDSON ROSS Leader of Chapel Choir	

JANITORS

Henry M. Lord *Library*	29 Mansfield Ave.
W. L. Johnson, *Engineer Mechanical Building*	153 Pine St.
Edmund L. Stowe *Old College*	80 Colchester Ave.
Sherman E. Felton *Williams Science Hall*	56 Colchester Ave.
Tyler Edwin Pease *Converse Hall*	
Edwin Loosemore *Medical College*	

COMMITTEES OF THE FACULTY

General Committee

PRESIDENT BUCKHAM, PROFESSORS BARBOUR, DANIELS, HILLS, HOWES

Committee on Studies

PROFESSORS HOWES, JONES, SLOCUM, H. A. TORREY, BUTTERFIELD, MR DOTEN, MR HAYES

Library Committee

PRESIDENT BUCKHAM, PROFESSORS TORREY, PERKINS, GOODRICH

Committee on Honors

PROFESSORS TORREY, DANIELS, HUFF, WAUGH

Absence Committee

PROFESSOR TUPPER, MR DOTEN, DR TORREY

Chapel Committee

PROFESSOR PERKINS, MR BUTTERFIELD

Athletic Committee

PROFESSORS HOWES, TUPPER, SLOCUM, WHEELER

Publication Committee

PROFESSOR GOODRICH, MR DOTEN

GENERAL STATEMENT OF INSTRUCTION

Instruction is given in the University in

I. The Department of Arts, which embraces

1. The usual Classical course in Languages, ancient and modern, Mathematics, Physical Science, Mental, Moral and Political Philosophy, Rhetoric, Literature and History, leading to the degree of *Bachelor of Arts;*

2. The Literary-Scientific course, in which the studies of the Classical course are pursued with the exception of Greek, and which leads to the degree of *Bachelor of Philosophy.*

II. The Scientific Departments, embracing the studies required (1) by the Morrill Act of 1862, which provides that instruction be given not only in "Classical and other Scientific studies," but especially in "branches of learning relating to Agriculture and the Mechanic arts;" and (2) by the Endowment Act of 1890, which provides for instruction in "Agriculture, the Mechanic Arts, the English Language, and the various branches of Mathematical, Physical, Natural and Economic Science, with special reference to their applications in the industries of life."

These Departments are:

1. The Department of Engineering, which includes (a) Civil and Sanitary Engineering; (b) Electrical Engineering; (c) Mechanical Engineering.

2. The Department of Chemistry.

3. The Department of Agriculture.

The degree in each case is *Bachelor of Science;* see Index, *Degrees.*

III. The Department of Medicine, leading to the degree of *Doctor of Medicine.*

ADMISSION

Candidates for admission to the University must produce satisfactory testimonials of good moral character and must be at least fifteen years of age.

Students coming from another college must present certificates of regular dismission from the institution they have left, and furnish satisfactory evidence of proficiency in all the studies—or their equivalents—which have been pursued by the class they propose to enter.

For admission to an advanced class, a corresponding increase of age is required and a thorough knowledge of all the studies which have been pursued by the students of the same class.

Young women are admitted to all courses in Arts and Science upon the same conditions as young men. They are required to room and board with families approved by the Faculty.

Requirements for Admission to the Classical Department

Greek. (1) Greek Grammar, including Prosody; (2) Xenophon's Anabasis, four books; (3) Homer's Iliad, three books; (4) Woodruff's Greek Prose Composition, or prose work based upon the Xenophon read in class; (5) translation at sight.

Latin. (1) Latin Grammar, including Prosody; (2) Cæsar, four books, or Second Year Latin [Ginn & Co., 1899], or First Latin Readings by Arrowsmith and Whicher; (3) Cicero, six orations including that for the Manilian Law; (4) Virgil, six books of the Æneid and the Eclogues [or in place of the Eclogues, 1200 lines of Ovid]; (5) Prose Composition, forty lessons; (6) translation at sight.

In the case of Latin and Greek authors substitutes will be accepted if full equivalents for the work here prescribed.

Teachers are urgently requested to give their pupils practice in reading at sight. They are also urged to have their pupils read aloud in both Greek and Latin as much as possible, that the ear may be

trained to the sound of the language, and that the words may gradually come to convey a meaning to the pupil's mind immediately and not through their English equivalents.

In the pronunciation of Greek, the rules of Hadley and Allen's Grammar, pp. 4, 5, 7, should be followed. The "Roman" method of pronouncing Latin is used in the class room.

Mathematics. (1) Arithmetic, including the metric system; (2) Algebra, through Quadratic Equations; (3) Plane Geometry.

English. (1) English Grammar; (2) Orthoepy; (3) English Composition, to be based for 1901 and 1902 upon the following works: Shakspere's Macbeth and Merchant of Venice; Milton's Comus, Lycidas, L'Allegro and Il Penseroso; Pope's Iliad, i, vi, xxii, xxiv; Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Scott's Ivanhoe; Cooper's Last of the Mohicans; Macaulay's Essay on Milton; Tennyson's Princess; George Eliot's Silas Marner.

For 1903, 1904, and 1905 upon the following: Shakspere's Merchant of Venice and Julius Cæsar; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; the Sir Roger de Coverley Papers in The Spectator; Goldsmith's The Vicar of Wakefield; Coleridge's The Ancient Mariner; Scott's Ivanhoe; Macaulay' Essays on Milton and Addison; Carlyle's Essay on Burns; Tennyson's The Princess; Lowell's The Vision of Sir Launfal; George Eliot's Silas Marner.

Geography. Ancient and Modern.

History. (1) Ancient and Classical, down to the Christian Era. Myers' and Colby's Outlines are suggested as text-books. (2) English and American; a rapid survey of the chief periods and events. Montgomery's histories are suggested as text-books.

Literary-Scientific Course

The requirements for admission to the Literary-Scientific course are the same as for the Classical course, except that in place of Greek an equivalent in French or German is required.

Requirements in French. (1) Proficiency in the elements of French Grammar, implying familiarity with inflection (particular attention being given to irregular verbs) and the essentials of French syntax; (2) the ability to translate ordinary French prose at sight. This should be gained by reading, concurrently with the grammar work, at least five hundred duodecimo pages of standard French prose and poetry; (3) the ability to translate easy English sentences into French, to pronounce French, and to recognize French words and phrases when uttered; (4) an elementary knowledge of the history of French literature.

Requirements in German. The following courses are suggested to those who intend to offer German as a substitute for Greek:

First Year. Joynes-Meissner German Grammar and Brandt's Reader; the latter to be followed by as much as can be read of simple works like the Maerchen of Andersen, Keller's Dietegen, or Auerbach's Brigitta. *Second Year.* The third part of the same grammar with selections from the Gedichte of Goethe, Schiller and Heine; Schiller's Jungfrau von Orleans and Heine's Harzreise.

In both of these courses the student should be given daily exercises (oral and written) in composition, in the first year translating into German detached sentences, and in the second, simple, connected English prose. Constant dictations in German, as a training to the ear, are recommended. A good collection of phrases is to be found in the Meisterschaft System of Rosenthal, and in Meissner's German Conversation.

The entrance examinations, which are both oral and written, presuppose a thorough familiarity with the principles and the practice of pronunciation, with the declension of nouns and adjectives, the conjugation of the regular and irregular verbs, and the essentials of German syntax.

Students who offer French or German for admission will not be allowed to take the elementary work in those languages, and then reckon it as a required study. They may, however, take advanced

work and have it counted. Literary-Scientific students who enter with deficiencies in French or German may make up such deficiencies by taking the elementary work in those languages *in addition* to the required number of studies.

[For the Conditions of Admission to the Departments of Engineering, Chemistry and Medicine, consult the fuller statements of these departments.]

Examinations for Admission are held in the large hall of the Science Building (second story) at the close and at the opening of each college year. See Calendar. The results of these examinations are reported immediately to the Committee on Admission, who furnish the successful candidates with Certificates of Admission to be presented by them to the President.

Admission by Certificate

Candidates will be admitted to any of the above Departments without examination, in case they bring Certificates of Graduation from Preparatory Schools whose Courses of Study fully meet the above requirements. If the certificate is defective in respect to any required study, the student will be examined in that study. Certificates must be made out on blank forms furnished by the Registrar. Students admitted by certificate will be regarded as being on probation the first half-year.

Special Examination in English

Every candidate for admission to any undergraduate department of the University will be required, at the time of entrance, to give evidence that he can write the English language in a legible hand and with correctness in spelling, punctuation and construction. And no student will be admitted as a full matriculant until he has satisfied his examiners by a written test that he has read with care and intelligence the English works named in the "Requirements for Admission" (p. 17) or their equivalents.

Students admitted conditionally will be allowed one year in which to make up all deficiencies. Examinations for the removal of such deficiencies are held in the afternoons of the first three days of each examination period, and on the day preceding the opening of the college year. [See Index, *Conditions.*]

Admission of Special Students

Persons of suitable age and attainments may, by special permission of the Faculty and by the payment of a specified fee, pursue certain studies in connection with the regular college classes without becoming matriculate members of the University. The classes which are open to such students, with the conditions of admission, will be made known upon application to the Secretary. Special Students must satisfy the Committee on Admission as to their ability to prosecute successfully the branches which they desire to pursue, and also obtain from the President an order for their admission to the University. They will be registered and enrolled in the same manner as regular students, and from the time of their admission will be entitled to the privileges, and subject to all the regulations of the University, but cannot be candidates for a degree.

Enrolment

All students are required to enroll themselves in their respective courses of study at the beginning of each half-year.

On the first day of the session, from 9 A. M. to 12 M., enrolment cards may be obtained at the room of the Committee on Studies. These cards are to be filled out immediately and submitted to the Committee for their endorsement. When so endorsed they are to be presented by the students to the Instructors for their signatures. The cards must be returned to the Committee, properly signed, within seven days.

Instructors will make up their class lists only from the endorsed cards presented by the students.

Absences will be counted from the first exercises of the studies chosen.

No changes of studies, except such as are sanctioned by the Committee, will be allowed.

Decision regarding the choice of studies should be reached before the opening of the Annual Session. For this purpose, Instructors will gladly advise with students at any time.

Registration

Students intending to enter the University should send their Entrance Certificates or other credentials to the Committee on Admission not later than the week preceding the opening of the Fall term. They will obtain from the Committee Certificates of Admission, which are to be taken, first, to the President for his signature; then to the Treasurer to get his receipt for the Registration fee (see Expenses, *post*). Students are then entitled to enter their names in the Register, and so become regular members of the University.

COURSES OF INSTRUCTION*

[**Letters in heavy face type** signify: **R**, Required; **E**, Elective; **I, II, III, IV**, first, second, third and fourth year of the course: **A**, first half-year; **B**, second half-year. **Figures** in the same type indicate the **number of hours**, † or exercises, per week].

GREEK

1. Lysias, Selections.—Plato, Apology and Crito.—Homer, Odyssey, four books.—Prose Composition, based upon the prose read in the course. **R14**

2. Euripides, Iphigenia in Tauris.—Demosthenes, Olynthiacs.—Aristophanes, Clouds.—Sophocles, Oedipus Tyrannus.—Prose Composition, based upon the prose read in the course. **EII3**

3. Greek Private and Social Life.—The private life of the Greeks will be treated in lectures. Collateral reading and subjects for investigation will be assigned. The aim of the course is to present a picture of the Greeks in their daily life. **EIII&IV** (**II** by special permission) **2**

4. The History of Greek Literature.—The rise and development of the various forms of Greek literature will be treated briefly in lectures. The aim of the course is to encourage the students to read, both in the class and privately, selections from as wide a field of Greek literature as possible. **EIII&IV3**

Courses 3 and 4 will be given in alternate years; course 3 in 1900–1901.

*When not otherwise specified, Courses run through the year.

†The "hour" is fifty minutes, except in laboratory work, where it is an hour and fifty minutes.

5. Aeschines Against Ctesiphon.—Demosthenes on the Crown.—Aeschylus, Seven Against Thebes.—Sophocles, Antigone.—Aristophanes, Frogs. **EIII&IV3**

6. Advanced Course in Greek Composition.—Study of the use of moods and tenses. **EIII&IV1**

PROFESSOR HOWES

LATIN

1. Livy, books i and xxi or xxii.—Tacitus, Germania and Agricola.—Plautus, Trinummus and Captivi.—Terence, Andria.—Prose Composition. **R14**

2. Cicero, Tusculan Disputations, book i.—Horace, Odes, Epistles and Satires.—Catullus.—Prose Composition. **EII3**

3. Quintilian, books x and xii.—Cicero, Letters,—Juvenal.—Persius. **EIII3**

4. Pliny, Letters.—Seneca, Essays and Medea.—Lucretius.—March's Latin Hymns.—Allen's Early Latin. **EIV3**

5. Prose Composition, Advanced Course. Open to those who have completed Course 2. **1**

PROFESSOR GOODRICH

ENGLISH

1. Elementary Course in Rhetoric and Composition.—Text-books, Hill's Principles of Rhetoric, Scott and Denney's Paragraph-Writing. **RI2**

2. Criticism and Composition.—Study of Invention and of selected prose masterpieces.—Text-books, Genung's Practical Rhetoric and Rhetorical Analysis.—Constant drill in composition.—Weekly lectures upon the history of English literature, with Stopford Brooke's Primer as a manual. **RII3**

3. English Literature from the Restoration to the present day.—Lectures and seminary work upon the poets and important literary movements of the last two centuries.—Lectures upon the history and principles of English Versification. **E3**

4. Anglo-Saxon.—Training in early linguistic forms and in development of English.—Literary study of Anglo-Saxon Poetry.—Text-book, Smith's Anglo-Saxon Grammar. **EA2**

5. Chaucer.—Supplementary to 4.—Further study of linguistic development.—Chaucer's poetry.—Collateral reading in the works of his contemporaries. **EB2**

6. Shakspere and his Contemporaries.—Elizabethan drama, lectures and collateral reading. Literary study and textual interpretation of selected plays of Shakspere.—Text-books, the Globe Shakspere, Rolfe's editions, and Dowden's Primer. A study of the non-dramatic poetry of the period will complete the course. **E3**

7. American Literature.—The greatest writers of the country and century will be studied. Lectures, reports, and collateral reading. Text-book, Beers' Outline Sketch of American Literature. **E2**

8. Argumentation.—Lectures upon the history of oratory and the principles of debate. Practice in brief-drawing and discussion. **RIII1**

9. The English Novel.—Critical study of masterpieces of English Fiction. **E2**

10. The Nineteenth Century Novel. Supplementary to 9. **E2**

Courses 3, 4, 5 and 10 will be given in 1900-1901; courses 6, 7 and 9 in 1901-1902. This alternation will enable the student, by a proper choice of electives, to trace through its entire history the linguistic growth and the literary development of English.

Members of the Freshman and Sophomore classes are required to deliver two selected declamations during the year. Juniors follow a course in argumentation, as prescribed above (8). Seniors are required to deliver two original orations and to write two essays during the year.

PROFESSOR TUPPER
MR DOTEN *Elocution*
DR BRIGGS *Rhetoric*

FRENCH

1. Elementary Course.—Grammar, Pronunciation, Composition and Translation. **I4**

Required of Literary-Scientific Freshmen who are conditioned in modern languages and of Scientific Freshmen who do not present the entrance requirements in German. Elective for Agricultural students, and for Classical Sophomores and Juniors.

2. Scientific French.—Advanced Grammar and Composition; reading of scientific prose. **I3**

Required of Scientific Freshmen who present the entrance requirements in French. Elective for others.

3. French Literature in the Seventeenth Century, alternating with French Literature in the Eighteenth Century.—Advanced Grammar and Composition. **I3**

Required of Literary-Scientific students who present the entrance requirements in French, but not in German, and for Academic students who have taken Course 1. The course may be taken two years.

4. French Life and Culture.—**A.** During the Middle Ages; **B.** During the Renaissance. Lectures, translation in class, themes and collateral reading. **E2**

5. Literary Movements in France in the Nineteenth Century.—**A.** Romanticism and the reaction against the movement. **B.** Present-day tendencies. Lectures, translation in class, themes, and collateral reading. **E2**

6. The Development of Historical Writing in France. Lectures and readings in the French historians. **E1**
7. The History of Literary Criticism in France. Lectures and readings in selected critical essays. **E1**

Courses 4 and 5, and 6 and 7 are given in alternate years and are elective for students who have taken Course 3. Courses 4 and 6 are given this year.

A student in the department of Arts who begins French or German in college is required to continue the study a second year.

MR HAYES

ITALIAN AMD SPANISH

Whenever the demand shall seem to warrant it, a course in either Italian or Spanish will be given. Both courses will not be offered the same year, but either is elective for students who have had at least one year of French in College. The course in Spanish is offered for 1900–1901.

1. Elementary Italian.—Grandgent's Italian Grammar and Italian Composition ; frequent drill in pronunciation ; occasional memorizing of choice selections in verse and prose ; daily reading of standard modern Italian authors. **E3**
2. Elementary Spanish.—Ramsey's Text-book of modern Spanish ; Matzke's Spanish Reader ; Galdós' Doña Perfecta ; practice in pronunciation and in reciting from time to time short selections from standard authors. If possible, at least a few of the more famous chapters of Cervantes' Don Quixote will be read towards the end of the year. **E3**

MR. HAYES

GERMAN

1. Elementary Course.—Joynes–Meissner German Grammar with written exercises ; Brandt's German Reader ; Andersen's Märchen ; Gedichte : Goethe, Schiller, Heine. Exercises in conversation based on the systems of Rosenthal and Meissner. **4**

Alternative with French 1 for Classical Sophomores and, by special permission for Literary-Scientific Freshmen who present the French required on p. 18; also for Juniors.

2. Composition.—Joynes-Meissner (part third) with written exercises and exercises in conversation. Fouqué's Undine; Schiller's Jungfrau von Orleans; Heine's Prose; Goethe's Faust (first part) with introductory lectures. **3**

3. a. Lessing's Laokoon and Goethe's Iphigenie auf Tauris will be read in the class. Collateral reading: Schiller's Die Piccolomini; Lessing's Emilia Galotti and Minna von. Barnhelm.

   b. Lectures. Outlines of German Literature in the Classic Period. **3**

PROFESSOR HUFF

See Note at end of French Courses.

1s Elementary Course for Scientific students.—Joynes-Meissner German Grammar with written exercises; Brandt's German Reader; simple scientific prose. **4**

2s Advanced Course.—Joynes-Meissner German Grammar (part third) with exercises in composition; Cohns Ueber Bakterien; Helmholtz, Ueber Goethe's Naturwissenschaftliche Arbeiten; translation of special articles. **4**

DR BRIGGS

PHILOSOPHY

1. Elementary Course.—Brief general introduction to philosophy, in lectures.—Logic; text-book, Creighton's Introductory Logic.—Ethics; text-book, Mackenzie's Manual of Ethics. **RIII3**

2. Advanced Course.—Psychology; lectures and Dewey's Psychology; Ladd's Outlines of Physiological Psychology.—Fundamental problems of philosophy; lectures and Hibben's The Problems of Philosophy.—Theism; text-book, Flint's Theism. **EIV3**

3. History of Philosophy.—Lectures and Weber's History of Philosophy. **EIV3**

4. Fine Art.—Lectures and text-books; Kedney's Hegel's Aesthetics; G. Baldwin Brown's The Fine Arts. **EIVB2**

PROFESSOR TORREY

HISTORY

1. General History.—Under this head Mediæval and Modern history will be covered in three courses. These will be given in successive years, providing thus a three-years course of consecutive historical study. Collateral reading, topical investigations, and theses will be required. **E3**

   a. Mediæval History, from the Fall of Rome to the French Revolution. Study of mediæval institutions, migrations, feudalism, Holy Roman Empire, papacy, crusades, towns, rise of European states, Renaissance and Reformation, colonial expansion.

   b. Modern European History from the French Revolution to the present. Study of the Revolution, its causes and effects. Napoleonic wars, readjustment of Europe, Germany, Russia, industrial revolution, political, and social condition of Europe.

   c. American History, North and South America. Colonial period, constitutions and society. Conflict between France and England, Revolution, federal union, parties, slavery, civil war, reconstruction, social condition. The emphasis upon social development.

Course b will be given in 1901-1902.

2. French Revolution.--Seminar course. Detailed study of the causes, principles and consequences of the revolutionary movement in Europe. Investigation will be the method, with

presentation of results before the class; supplementary lectures. A working knowledge of French will be indispensable. **EIII&IV3**

3. Parliamentary Government.—Seminar course in the detailed study of the origin and development of the parliamentary system of government from Magna Charta to the cabinet. Methods same as in Course 2. **EIII&IV3**

PROFESSOR EMERSON

SOCIOLOGY

1. Social Theories.—Examination of various social schemes; Plato's Republic, Cicero's De Republica, Augustine's Civitas Dei, More's Utopia. Modern theories; Comte, Spencer, Kidd, Gumplowicz, Fouillée, Giddings, collectivism, communism, socialism.

2. Industrial Era.—A study of modern society under the phase of industrialism. Industrial revolutions, inventions, factory, transportation, trade, the modern city. Reaction upon state, culture, religion; consequent reconstruction of society.

3. Social Institutions.—An historical investigation of their origin and development; primitive and ancient society; family, slavery, property, marriage, civil government, law, rights, classes, religion, philosophy, agriculture, industry, commerce. Lectures, with extensive collateral reading, research and theses. **EIII&IV**

Course 2 will be given in 1901-1902.

PROFESSOR EMERSON

POLITICAL SCIENCE

1. Economics.—Walker's Political Economy (Advanced Course) with prescribed reading on the application of economic principles. Lectures and discussions. **EIII3**

2. Banking, International Trade and selected topics on the Financial Legislation of the United States will be treated the present year. Dunbar's Theory and History of Banking; Bagehot's Lombard Street; White's Money and Banking; Goschen's Theory of Foreign Exchanges; Clare's A B C of the Foreign Exchanges, with other prescribed reading. **EIV3**

3. Constitutional Law.—Black's Handbook with leading cases on the U. S. Constitution. In the second half-year, some time will be given to a comparative study of the English, French, German and Swiss Constitutions. **EIV2**

MR SEAMAN

4. International Law.—Text-book, Lawrence's Principles of International Law; Examination of the great cases, with frequent discussions and papers. Thesis on some one of the open questions. **EIV2**

PRESIDENT BUCKHAM

MATHEMATICS

1. a. Algebra.—Arithmetical and Geometrical Progression, Convergence and Summation of Series, Binomial and Exponential Theorems, Logarithms, and a brief introduction to the Theory of Equations.

   b. Solid Geometry and Plane Trigometry. **RI5.**

PROFESSOR DANIELS

2. a. Analytical Geometry.

   b. Analytical Geometry continued and introduction to Differential Calculus. **EII3**

3. Differential and Integral Calculus, with a short course on Differential Equations. **EIII3**

   MR COIT

4. a. Higher Algebra.

   b. Introduction to Modern Geometry. **EIII2 or 3**

5. a. Descriptive. Astronomy. **EII&III1**

   b. Spherical Trigonometry and application to Practical Astronomy. **EII&III1**

   PROFESSOR DANIELS

1E* a. Algebra—Arithmetical and Geometrical Progression, Permutations and Combinations, Probability, Binomial and Exponential Theorems, Logarithms, Convergence and Summation of Series, and introduction to Theory of Equations. **I5**

   b. Plane and Analytical Trigonometry. **15**

   c. Analytical Geometry.—Plane Analytical Geometry, Equations of the Second Degree, Solid Analytical Geometry. **I5**

2E* a. Differential Calculus. **II4**

   b. Integral Calculus and Differential Equations. **II4**

   c. Spherical Trigonometry and applications to Practical Astronomy. **III**

   PROFESSOR BUTTERFIELD

*For Students in the Engineering Department.

PHYSICS

1. General Physics—Mechanics, properties of matter, heat, sound, light, electricity and magnetism. Text-book, Ames' Theory of Physics. Lectures and laboratory work. **4**

Required of Chemical and Engineering Sophomores. Those electing this course should be familiar with the elements of Trigonometry.

2. Electricity and Magnetism. Nipher's Electricity and Magnetism and Carhart and Patterson's Electrical Measurements used as text-books. Lectures and laboratory work. **4**

3. Heat.—Maxwell's Heat and Duhem's Potential Thermodynamique used as basis of lectures. Lectures and laboratory work. **3**

4. Light.—Preston's Theory of Light and Basset's Physical Optics used as basis of lectures. Lectures and laboratory work. **2**

5. Mathematical Physics.—Methods of solving the differential equations of physics with application to problems in mechanics, sound, heat and electricity. Text-books used as basis of lectures: Rieman's Partielle Differentialgleichungen, Walton's Collection of Problems in Mechanics, Donkin's Acoustics, and Fourier's Analytical Theory of Heat. Lectures. **4**

PROFESSOR SLOCUM

NATURAL SCIENCES

1. Physiology and Hygiene.—A course of informal, practical lectures upon the principles of Hygiene and Sanitary Science, including so much of Anatomy and Physiology as is necessary to a proper understanding of these principles. **RI1**

2. Physiology, Advanced Course.—Recitations from Martin's Human Body, supplemented by lectures, demonstrations, and a full series of Auzoux and Deyrolle Models. **EIII&IV2**

3. Animal Biology, General Course.—The aim of this course is to train the student in methods of observation and reasoning as well as in the acquisition of facts. The course

consists of two lectures and two laboratory sessions each week during the second half-year. In both lecture-room and laboratory a sufficient number of typical forms are studied to give the student a general survey of the animal kingdom. **EIII&IVB4***

4. Animal Biology, Advanced Course.—This is designed for those students only, who during the previous course have developed so much interest in the subject and so much success in investigation as to make it advisable for them to continue the study in special lines. A few forms only are thoroughly investigated. A limited portion of the time may be given to systematic work upon some group of animals. In both these courses full and accurate notes of the work done, illustrated by careful sketches, are required. **EIV3-6**

The Biological Laboratories are well equipped with compound and dissecting microscopes, so that usually each student is supplied with both, which he is free to use during his course. Microtomes and other needed laboratory apparatus are also furnished.

5. Entomology.—Lectures and laboratory course in structural and systematic entomology, with special reference to insects which are injurious to vegetation. **B2**

6. Anthropology.—Lectures and collateral reading. A general survey of the ethnological, social, moral and intellectual characteristics of the principal races of the world is followed by a discussion of the origin and development of laws, government, arts, industries, language, literature and religious systems. So far as practicable the lectures are illustrated by maps, plates, photographs and specimens. **EIII&IVA3**

---

*The "hour" in laboratory work is an hour and fifty minutes.

7. Geology.—The course in Geology is intended primarily to meet the wants of those who, though not expecting to specialize in the subject, yet desire such knowledge of its facts and principles as every educated person should possess. About one-half of the course consists of recitations, Scott's Introduction to Geology being used as a text-book. The remainder of the time is devoted to lectures upon Historical Geology. These are illustrated by an extensive series of fossils typical of each of the great geological subdivisions. So far as practicable, excursions are taken to interesting localities in the vicinity of the College. **EIII&IVB3**

PROFESSOR PERKINS

8. Mineralogy.—Lectures and Laboratory work. The course comprises Crystallography, Blow-pipe Analysis, and Determinative Mineralogy, and aims to give the student such experience as will enable him to distinguish, with the aid of tables, any mineral species. **A3**

Required of Chemical and Civil Engineering students; open to Classical and Literary-Scientific students who have taken Chemistry 1.

MR JACOBS

BOTANY

1. Elements of Biology of Plants.—Elements of plant structure and physiology followed by a comparative study of some of the lower forms of plant life. Two lectures or recitations with collateral reading and two laboratory exercises each week. **II&IIIA4**

2. ☋ Structural and Systematic Botany.—This course is a continuation of 1, including the study of the ferns and higher plants, with special reference to their structure and relationship and the identification of species. Field work upon special groups of plants is undertaken in the spring. Lectures, recitations and laboratory work. **II&IIIB3**

3. a. Plant Morphology and Embryology.—Laboratory work, collateral reading and topical investigations. **III&IVA3**

   b. Plant Physiology.–Experimental work in the laboratory; lectures and collateral reading. **III&IVA3**

These courses are offered in alternate years; course 3 a is given this year.

4. Plant Pathology.—A study of the nature and causes of plant diseases, including an introduction to the methods of bacteriology and a systematic consideration of parasitic fungi. Lectures, collateral reading, laboratory and field work. **III&IVB3**

4. a. Bacteriology.—Any student taking course 4 may elect two hours additional work in bacteriology, such extra time to be given to the study of technical methods of bacteriological investigation. If the laboratory is not crowded, a few advanced students other than those taking course 4 may be permitted to elect course 4a as a three-hour course.

Courses 4 and 4a will not be given in 1900–1901.

5. Investigation.—Any student who is prepared may undertake research work upon a special topic in preparation for a graduation thesis or as a candidate for honors in botany. In exceptional cases similar work may be undertaken for credit toward a degree. The nature and extent of such work are determined by the ability and attainments of the individual student.

PROFESSOR JONES, MR HOWE

HORTICULTURE

1. Propagation, nursery management, pruning, horticultural classification. **RIIB3**

2. Pomology, large and small fruits, with field and laboratory work and excursions to points of horticultural interest. **RIIIA3**

3. Landscape Gardening.—The philosophy of art as applied to landscape study, with a consideration of the history of landscape art and a study of modern works. Lectures, illustrations, readings and field work. **EA2**

4. Horticultural Practice.—Practical exercises in handling seeds, plants, and horticultural tools, grafting, budding, pruning, etc. May be elected by special permission. **EA&B2**

5. Forestry.—The botany of native forest trees, with a study of forest management. **EB2**

6. Evolution.—A study of the evolution notion, the species notion, heredity, variation, with the principal theories of inheritance and of the transmutation of organic forms. **RIIIB3** Elective to others having necessary preparation.

7. Special Electives are offered to individual students in various lines of horticulture, such as Evolution, Landscape Gardening, Pomology, and the study of leading horticultural works in French and German.

PROFESSOR WAUGH

ENGINEERING

DRAWING

1. a. Mechanical drawing and lettering. Tracy's Elements of Mechanical Drawing; Reinhardt's Free Hand Lettering. **A&B2***

   b. Detail working drawings of machines, and construction of gear teeth. **IIA2,B1**

   c. Analysis of valve gears, and steam engine details. **IIIA3,B2**

---

*In drawing and laboratory work, the "hour" is one hour and 50 minutes.

2. a. Elementary projections and descriptive geometry. **1B2**
   b. Descriptive geometry and isometric projections. **IIA3**
   c. Stereotomy. **IIB2**
3. a. Topographical drawing, pen and colored topography. **1B1**
   b. Map construction. **IIB2**
   c. Mapping surveys. **IIIA4**
4. a. Structural drawing. **IVA4**
   b. Problems in designs. **IVB3**

PROFESSORS BARBOUR, VOTEY, AYER, MR SAWYER, MR WILSON

MECHANICS

1. a. Force and Energy.—Representation and measurement of forces, their composition and resolution, equilibrium, velocity and acceleration, mechanical work, centrifugal force, energy of rotating bodies, moment of inertia, impact, centre of gravity. Lanza's Mechanics. **IIIA4**
   b. Elasticity and Resistance of materials, theory of flexure and torsion, shear and bending moment, elastic limit and working stresses. **IIIA4**
   c. Determination of Stresses in roof and bridge trusses, analytical and graphical methods. **III4**
2. Stresses in Trusses from wheel loads, graphical statics, study of arches and retaining walls, designing of plate girders and trusses. Johnson's Framed Structures. **IV5**

PROFESSOR BARBOUR

3. a. Hydraulics.—Pressure of water on plane and curved surfaces, centre of pressure, theoretical and actual discharge through orifices and weirs. Flow of water in long pipes, reaction and impact of water, laboratory and field measurement. Merriman's Hydraulics. **IVA4**
   b. Laboratory and Field Work. **IVB1**

PROFESSOR BUTTERFIELD

Civil Engineering

1. a. Surveying.—Use of Instruments, compass, level and transit ; land surveying ; recitations and field work. Raymond's Surveying. **IB2**

   b. Summer school of Surveying. Land surveying, traversing, leveling and topographical surveying. One month in summer vacation.

2. a. Computing and plotting work of Summer School. **IIA1**

   b. City Surveying. Solar compass and transit ; recitations, lectures and field work. **IIB2**

   c. Summer School of Surveying.—Geodetic, hydrographic and topographical surveying. One month in summer vacation.

3. a. Geodetic Surveying. **IIIA2**

   b. Railroad Surveying.—Recitations and field work. Searles' Field Engineering. **IIIB3**

Professors Votey and Butterfield, Mr Sawyer

Engineering Construction

1. Materials of construction, their properties, preparation and use.

   a. Stone, brick, lime, cement, mortar, concrete and masonry. Recitations, lectures and laboratory work. **IIIA2**

   b. Timber, iron, steel and other metals. Recitations, lectures, and laboratory work. Johnson's Materials of Construction. **IIIB2**

2 a. Construction of roads, streets and pavements. Lectures, recitations, field and laboratory work. Byrne's Highway Construction. **IIIB2**

   b. Foundations of structures on land and in water. Lectures. **IVA2**

c. River improvements; harbor and canal construction; railway construction, equipment and management. Lectures. **IVB1**

3. a. Contracts and specifications. Lectures and recitations. Johnson's Contracts and Specifications. **IVB1**

PROFESSOR VOTEY, MR. SAWYER

SANITARY ENGINEERING

Water supply, sewerage, plumbing, heating and ventilation. Lectures and laboratory work. **IVA3**

PROFESSOR VOTEY

MECHANICAL ENGINEERING

1. a. Elementary Mechanism.—The Transmission of Motion by rolling and sliding contact, by linkages, and by wrapping connectors; trains of mechanism; aggregate combinations of mechanism. Stahl and Woods' Elementary Mechanism. **IIA2**

b. Gearing and Machine Tools.—Theory and construction of correct gear tooth curves. Construction of the driving and feed mechanisms of standard machine tools. Stahl and Woods' Elementary Mechanism; lecture notes. **IIB3**

2. a. Steam Enigneering. Analysis of plain slide valve motions by the aid of the Zeuner and Bilgram diagrams; link motions and radial reversing gears; double and detachment valve gears. Construction and use of the steam engine indicator. First and second laws of thermodynamics; laws of perfect gases and saturated vapors; elementary theory of the heat engine. Peabody's Valve Gears for Steam Engines; Peabody's The Steam Engine Indicator; Ewing's The Steam Engine; lecture notes. **IIIA4**

b. Steam Engineering—Theory and practice of the steam engine. Construction and care of steam boilers. Pumps and pumping engines. Theory and construction of the injector. Ewing's The Steam Engine; Peabody and Miller's Steam Boilers; lecture notes. **IIIB4**

3. a. Dynamics of Machines.—Analysis and design of steam engine governors and fly wheels. Theory and design of multiple-expansion steam engines; lecture notes. **IVA4**

b. Motors and the Transmission of Power.—Gas, oil and hot-air engines; hydraulic motors; rope driving; measurement of power; use of compressed air; mechanical refrigeration. Clerk's The Gas and Oil Engine; Flather's Rope Driving; Flather's Dynamometers; Richards' Compressed Air; lecture notes. **IVB4**

c. Machine Design.—Application of mechanics to the design of steam boilers and power transmission machinery; steam engine design. Lecture notes; Kent's Mechanical Engineers' Pocket Book; Low and Bevis's Machine Design. **IVA&B3**

4.* Machinery and Motors.—Elementary study of steam engines, boilers, pumps and power transmission machinery. Lectures. **IVA2**

5. a. Mechanical Engineering Laboratory.—Determination of the errors of thermometers, steam gauges, planimeters and indicator springs; steam engine tests; tests of steam calorimeters. **IIIB2**

b. Mechanical Engineering Laboratory.—Tests of steam boilers and pumps, and the measurement of power. **IVB2**

6. Mill Engineering.—An elementary course on mill design and cotton spinning machinery. **IVB2**

PROFESSOR AYER, MR WILSON

* Required of Seniors in the departments of Chemistry and Civil Engineering.

SHOP-WORK

1. Carpentry. **B2**
2. a. Wood turning and pattern making. **A2**
   b. Pattern making, moulding and founding. **B2**
3. a. Forging of iron and steel. **A3**
   b. Chipping, filing and lathe work. **B3**
4. Machine shop work. **A&B3**

MR EATON, MR WILSON

ELECTRICAL ENGINEERING

1. Elements of Electrical Engineering.—Electrical units and fundamental laws, electro-magnetism and electro-magnetic induction. Houston & Kennelly's Electrical Engineering Leaflets. **A&B2**
2. Telegraphy and Telephony.—Principles underlying the action of practical systems, and the engineering features of their construction. Lectures. **A&B1**
3. Dynamo.—Theory of the dynamo and designing of dynamos and motors. Crocker's Electric Lighting and lectures. **A3**
4. Junior Electrical Laboratory.—Direct current dynamos and motors and testing of arc and incandescent lamps. **A&B3**
5. Electric Lighting.—Central station designing, detail consideration of systems of distribution touching upon all the apparatus from the boilers or water wheels to the lamps. Crocker's Electric Lighting and lectures. **B4**
6. Alternating Currents.—Theoretical principles and construction and operation of machinery employed in alternating and multiphase systems. Jackson's Alternating Currents. **A&B3**

7. Senior Electrical Laboratory.—Alternating current work, tests on railway equipment and experimental work in electrochemistry. **A&B3**

8.—Electric Railways.—Principles underlying the action of the various systems of street railways and description of apparatus as used. Lectures. **A2**

9. Electric Power.—Consideration of the various systems for electrical transmission of power. Discussion of engineering features. Lectures. **B2**

10. Electro Chemistry.—Fundamental laws and theory of electrochemical reactions with descriptions of commercial processes and plants for the production of various metals, alkalies and chemicals. Lectures. **B1**

11. Electrical Specifications.—Outlines of forms and principal requirements to be fulfilled by electrical installations. Merrill's Specifications and lectures. **B1**

12. Electrical Engineering.—A non-mathematical exposition of the principles involved and description of apparatus and machinery employed in the most important electrical industries. Lectures. **A2**

This course is required of Seniors in the Civil and Mechanical Engineering and Chemistry courses.

PROFESSOR FREEDMAN

CHEMISTRY

1. General Chemistry.
   a. Lectures. **A&B2**
   b. Laboratory work.—Elementary experiments and elementary qualitative analysis. **A&B2**
2. Qualitative Analysis.—Advanced course; laboratory work, with lectures and recitations. **A3** Elementary quantitative analysis. **B3**

3. Quantitative Analysis.—Laboratory work and lectures, with class meetings for discussion of methods. One year or longer. **4**

4. Stoichiometry.—Lectures. **A2**

5. Industrial Chemistry.

   a. Assaying.—Ores, furnace products, etc. **A3**

   b. Lectures.—Inspection of constructional plans of work, with occasional excursions to manufacturing establishments, when such may be made conveniently. **B2**

6. History of Chemistry.—Lectures. **B1**

7. Organic Chemistry.

   a. Lectures.—Theory and synthesis of carbon compounds. **A&B2**

   b. Laboratory work.—Preparation of compounds, analyses, etc. **9 to 14**

   c. Commercial organic analysis.—Lectures. **B2**

Courses 5b and 7a are given in alternate years.

8. Physiological Chemistry. **A2**

9. Physical Chemistry. **B2**

Practical use of the Spectroscope is offered to students who are qualified for that order of work, at some convenient time during the four years.

PROFESSORS MERRILL AND TORREY, MR WHITNEY, MR JACOBS

AGRICULTURE

1. Soils, Tillage, Drainage, Irrigation, Fertilizers. King's The Soil; King's Drainage and Irrigation; Voorhees' Fertilizers. Lectures, recitations, collateral reading and theses. **IIA5**

2. Agricultural Grasses; a study of their botanical relationships and economic values. **IIB1**

3. Agricultural Literature and how to use it. Books: what they are; how made; how to use them; how to outline a subject; how to find the literature of it; with a few lectures on the literature of agriculture. The course will cover agriculture, horticulture and allied sciences in a general way. **IIB2** Elective to others.

4. a. Stock Feeding; animal nutrition; fodders and feeds; feeding. Henry's Feeds and Feeding. Lectures, recitations, collateral reading and theses. **IIIA** till Jan. **4**

   b. Dairying. Wing's Milk and its Products; Farrington and Woll's Testing Milk and its Products. Lectures, laboratory work and recitations. **12.** January session of the Dairy School.

5. Stock Breeding; breeds of live stock. Miles' Stock Breeding. ing. Lectures, recitations and laboratory work (scoring cattle.) **IIIB3**

6. Original investigation for theses; laboratory and library research upon some subject pertaining to agriculture, botany, horticulture or veterinary science, under the direction of the instructor in charge. **IVA&B3**

PROFESSORS HILLS, JONES, WAUGH, DR RICH

VETERINARY SCIENCE

1. Comparative Anatomy of domestic animals. Strangeway's Anatomy. Lectures and recitations. **RIIA2**

2. Comparative Physiology of domestic animals. Kirk's Human Physiology. Lectures and recitations. **RIIB3**

3. Histology. Kirk's Human Physiology. Lectures and recitations. **RIIIA2**

4. Diseases of domestic animals; theory and practice of veterinary medicine. Lectures, recitations and clinics. **RIIIB3**

DR RICH

DEPARTMENT OF ARTS

FACULTY

MATTHEW H. BUCKHAM, D. D., LL. D., President *Political Science*
HENRY A. P. TORREY, LL. D., Dean *Intellectual and Moral Philosophy*
GEORGE H. PERKINS, Ph. D. *Physiology, Geology, Anthropology*
JOHN E. GOODRICH, D.D. *Latin*
SAMUEL F. EMERSON, Ph. D. *History*
NATHAN F. MERRILL, Ph. D. *Chemistry*
ARCHIBALD L. DANIELS, Sc. D. *Mathematics*
LEWIS J. HUFF, A. M., *German*
LEWIS R. JONES, Ph. B. *Botany*
FREDERICK TUPPER, JR., Ph. D. *English Literature*
ALLISON WING SLOCUM, A. M. *Physics*
GEORGE E. HOWES, Ph. D. *Greek*
CARROLL W. DOTEN, A. M. *Elocution*
WILLIAM S. HAYES, A. B. *French and Italian*
WILLIAM D. BRIGGS, Ph. D. *Rhetoric*
WILBUR A. COIT, Ph. B. *Mathematics*

REQUIRED AND ELECTIVE STUDIES

I. Candidates for the degree of A. B., after pursuing a required course of Greek, Latin, Mathematics, English and Hygiene through the Freshman year, are allowed to elect a certain number of their studies, the number increasing in the later years of the College course until the Senior year, when all studies, except those of the Military department, are elective. Each student is required to take such a number of Electives as will bring his total work up to fifteen recitation or lecture hours per week, not including those of Military Drill.

The abuse to which a system of perfectly free electives is liable is avoided by the requirement of a certain number of studies which are intended to secure some completeness and symmetry of discipline, while the number of electives permitted gives room for the development of special talents and the following out of individual predilections. The electives are offered in such a way as to permit extended study of any subject or group of subjects of which the student may wish to make a specialty. For example, Greek, Latin, English and Mathematics may be pursued through most of the time during the four years; French and German each for three years; the Natural Sciences, History, and the Social, Intellectual and Moral Sciences, for from two to three years.

The electives embrace studies in Greek and Latin, French and German, including studies in Comparative Literature; the higher Mathematics, including Calculus and the New Geometry; History; Political and Social Science; English Literature; Chemistry, theoretical and applied, with laboratory work; Physics; Geology; Botany; Zoology; Biology; Anthropology; Metaphysics; the History of Philosophy; the Theory of Fine Art.

Other subjects, in which classes are likely to be small, like Anglo-Saxon and Italian, will be offered occasionally, at such intervals as to give all students an opportunity to take them at some time during their college course.

II. Candidates for the degree of Ph. B. will have the same required courses and the same electives as candidates for the degree of A. B., except that, omitting Greek, they will begin the study of French and German one year earlier and will select in the second year from the more advanced electives.

III. Persons who may desire to take a short academic course preparatory to the study of medicine may take the first two years of the course leading to the degree of Ph. B., with any of the electives of the entire department for which they have the requisite preparation.

IV. Students in any of the other departments may, by special permission of the Faculty, take a limited number of electives from the departments of Engineering and Chemistry.

V. It is assumed that the choice of electives will be made by the students with reference to some clear, deliberate purpose, and as the result of consultation with members of the Faculty. In all cases the natural sequence of studies must be observed. The Faculty reserve the right to exclude a student from any course for which his previous studies have not properly prepared him.

VI. Arrangements are made between the Academic and Medical departments by which a candidate for the degree of A. B. or Ph. B. may count certain Medical studies of the first year as equivalents for part of his last year's Academical studies, and in this way may abridge by one year the time necessary for taking his degrees in both departments.

The Choice of Electives

The studies of Freshman year are all prescribed. For Classical students they are: *Greek, Latin, Mathematics, English and Hygiene;* for Literary-Scientific students Greek is replaced by French.

With Sophomore year the system of Elective studies begins. It is designed to start students upon those different paths which lead to specialization in different branches. It is important therefore that studies should be chosen with a view to a definite goal. The Prescribed studies of Sophomore year are *English and one Modern Language.* The Elective studies of Sophomore year are, *Greek, Latin, Elementary German, Elementary or Intermediate French, History, Mathematics, Chemistry, Physics, Biology. Botany.* If Classical studies are the goal, Greek and Latin should be chosen, and German would be a valuable accessory. If it is the aim to emphasize the Literary studies, German and French should be elected. Mathematics is the best preparation for physics, and Chemistry for the biological sciences.

Every student should endeavor to secure a working knowledge of at least one modern language, and *no language should be pursued for less than two years.*

The studies of Junior year should continue the lines elected in Sophomore year, and the studies of Senior year should complete the same, but opportunity should be secured for the enrichment presented in the Philosophical, Political, Social and Historical studies. In this way a relatively high degree of specialization may be combined with the advantages of liberal studies. No student, however, will be allowed to enter a course when in the opinion of the instructor his previous studies have not properly prepared him for it.

The requirement of Military Instruction has recently been extended so as to include seniors.

DEPARTMENT OF ENGINEERING

FACULTY

MATTHEW H. BUCKHAM, D. D., LL. D., President *Political Science*
VOLNEY G. BARBOUR, Ph. B., C. E., Dean of Faculty *Bridge Construction and Mechanics*
JOSIAH W. VOTEY, C. E. *Civil Engineering*
ARTHUR W. AYER, B. S. *Mechanical Engineering*
WM. H. FREEDMAN, C. E., E. E. *Electrical Engineering*
GEORGE H. PERKINS, Ph. D. *Natural History*
NATHAN F. MERRILL, Ph. D. *Chemistry*
LEWIS J. HUFF, A. M. *German*
FREDERICK TUPPER, JR., Ph. D. *English Language and Literature*
ALLISON W. SLOCUM, A. M. *Physics*
ARTHUR D. BUTTERFIELD, M. S. *Mathematics*
JAMES EATON, *Shop Work*
CARROLL W. DOTEN, A. M. *Elocution*
WILLIAM S. HAYES, A. B. *French*
OSCAR R. WILSON, M. E., *Assistant in Mechanical Engineering*
WILBUR C. SAWYER, B. S. *Assistant in Civil Engineering*

Candidates for admission to this Department must be prepared in the ordinary English branches, including arithmetic, algebra through quadratics, plane, solid and spherical geometry, English grammar and literature as prescribed for the course in Arts, page 17, English and American history, botany, and political and physical geography.

Candidates must also be prepared with two years of French, or two years of German, or an equivalent of Latin.

There are three courses of study in the Department; one in Civil Engineering, one in Mechanical Engineering, and one in Electrical Engineering, each covering four years. In laying out these courses the University has kept in mind two principles; first, that a technical course pursued in a Universlty ought to be broadly educational; second, that it ought to be in the best sense professional. It aims to give not so much a technical apprenticeship as a professional education. All courses include the study of mathematics, chemistry, physics, theoretical and applied mechanics, English, French, German, political economy.* Technical Essays are required from students at intervals during their course, and a Graduating Thesis must be submitted by each near the close of the Senior year.

The Department is well supplied with Engineering and Scientific periodicals, including the publications of the chief Engineering Societies of this country and of the English Institute of Engineers; and the Library contains a very complete list of the valuable works in the several branches of Engineering.

Graduates of the Academic course may complete the special studies of the Department in three years, or in two years where sufficient preparation has been made in mathematics, chemistry and physics.

---

*For more detailed statement of studies, see Courses of Instruction, pages 22ff., and the Bulletin of the Department, which may be obtained by application to the Registrar of the University.

CIVIL ENGINEERING

The special studies in Civil Engineering are arranged with the object of furnishing a broad training in the technical branches, and of giving the student a thorough and practical knowledge of the essential principles of the various branches of the profession, so that on graduation he may be well equipped to enter successfully any one of the special fields of engineering.

Drawing. The special instruction in the various kinds of Drawing is confined to the first two years, but some work in the drawing-rooms is required throughout the course, the time during the later years being devoted to mapping Surveys and to Structural Drawing and Designing.

Surveying and Summer School of Surveying. The student is taught the theory, use and adjustments of all the instruments used in surveying, the methods of conducting surveys and of computing and plotting the results of the work. The Field Work in surveying is carried on mainly at the Summer School of Surveying, which is held during the four weeks following the close of the regular college year. Attendance at this school is required of all students in Civil Engineering for the first two years of their course, and the work may be elected by students of any other class or department. A fee of five dollars for incidental expenses is charged for this course. Any young man outside of the University who may desire a course in practical surveying, if properly fitted for the work, may be admitted to the School upon application.

Railroad Engineering. In the second half of Junior year the class-room work in Railroad Surveying is commenced, and this is followed by field practice in running curves and cross-section work. A location is made of a short line of road, and the work preliminary to construction is carried out, estimates being made of the quantities of material involved and the cost of construction. In Senior year a course of lectures is given on Railway Construction, Equipment and Operation.

Engineering Construction. During Junior year four hours a week are devoted to the study of the materials of construction, and especially of the characteristics and properties that govern the selection, manufacture and use of such materials in engineering work. Laboratory tests of the physical properties of the materials form an important part of this course, and are carried on in connection with the class-room work.

In Senior year attention is given to the subjects of Foundations and Masonry work, the Improvement of Rivers and Harbors, and Canal Construction. The study of Specifications and Contracts forms a part of this course.

Highway Engineering. The general principles relating to the location and building of country roads and city streets are first considered, followed by a detailed study of the materials and methods used in the construction of Macadam and Telford roads and the various forms of street pavements. The Engineering Laboratory has a complete equipment for testing road and paving materials.

Sanitary Engineering. This course includes a study of house plumbing, the sewerage of cities, the methods of sewage disposal, the collection, storage and distribution of water and the heating and ventilation of buildings.

Equipment. The collection of surveying instruments is sufficiently large and complete to enable the field work to be carried on to the best advantage.

The Testing Laboratory contains a cement machine of 2,000 pounds capacity, a Riehlé testing machine of 50,000 pounds, and an Olsen machine of 200,000 pounds. These machines are equipped with the special appliances needed, including micrometers and extensometers, for properly conducting experimental work.

SYNOPSIS OF COURSES

FRESHMAN YEAR	A	B	SOPHOMORE YEAR	A	B
Mathematics 1*a, b, c	5	5	Mathematics 2*a, b	4	4
Drawing 1a, 2a	2	2	Mathematics 2*c	1	1
Drawing 3a		1	Drawing 2b, 3b	3	2
Surveying 1a		2	Surveying 2a, 2b	1	2
Chemistry 1a, b	4	2	Physics 1	4	4
Hygiene	1	1	English 2	2	2
English 1	2	2	German 2, or French 2	3	3
German 1 or French 1	4	4	Vacation		
Vacation			Surveying 2c, one month		
Surveying 1b, one month					

JUNIOR YEAR	A	B	SENIOR YEAR	A	B
Mechanics 1a, b, c	4	4	Mechanics 3a, b	4	1
Engineering Construction 1a, b	2	2	Mechanics 2		3
Drawing 3c, 4a	4	4	Graphical Statics	5	
Geodesy	2		Drawing 4b		3
Surveying 3b		3	Sanitary Engineering	3	
Engineering Construction 2a		2	Engineering Construction 2b, 2c	2	2
Political Science 1	3	3	Engineering Construction 3a		1
Mineralogy	3		Mechanical Engineering 4	2	
Natural Sciences 7		3	Mathematics—Least Squares		2
Vacation			Engineering Laboratory		2
Engineering Thesis			Electrical Engineering	2	
			Graduating Thesis		

For explanation of letters and figures in heavy type, see p. 22.

MECHANICAL ENGINEERING

The technical studies of the course in Mechanical Engineering are designed to give the student a knowledge of the fundamental principles of engineering practice, together with such a training, both theoretical and practical, as will best help him to become a successful designer of machinery, or to approach from the best standpoint problems relating to the generation, transmission, and use of power. The groundwork of this instruction is given by means of recitations and lectures in the class room, and these are supplemented by extended courses in the drawing room, the workshops, and the engineering laboratory.

Class Room Work of the course proper begins in the Sophomore year with a study of elementary mechanism, gear tooth construction,

and the mechanism of machine tools. The Junior year is taken up almost wholly with the general subject of steam engineering, including the mechanism and thermodynamics of the steam engine, the construction and management of steam boilers and pumps, the use of the steam engine indicator, etc. In the Senior year the study of machine design is made an important feature, and instruction is given also on the subjects of governors and fly-wheels, the use of compressed air, mechanical refrigeration, measurement of power, gas and oil engines, and the multiple expansion steam engine. A short course in mill engineering, including the study of cotton spinning machinery, is also given during this year.

Drawing. Instruction and practice in drawing are given during all four years of the course. The work includes projection drawing, free hand lettering, the making of working drawings, blue-printing, and designing.

Shopwork begins in the second half of the Freshman year with instruction in carpentry, followed in the Sophomore year by wood-turning, pattern making, and foundry work. Forging, chipping and filing, and machine tool work are taught during Junior and Senior years. The shops are well fitted up, and are supplied with equipment as follows:

The Carpenter and Pattern Shop contains, in addition to sixteen carpenter benches, and a full line of tools for manual work, thirteen wood-turning lathes, an eighteen inch pattern-makers' lathe, a buzz planer, two circular saws and a scroll saw. The Foundry is supplied with a cupola furnace, brass furnace, core-oven and a complete outfit for bench and floor moulding. The Forge Shop contains eight forges and anvils, a hand drill, a punching and shearing machine and all the hand tools necessary for instruction in this branch. The Machine Shop is equipped with filing and chipping benches, six engine lathes, two hand lathes, a planer, a shaping machine, two upright drills, a milling machine, a grinding machine and a wet emery grinder, together with a large assortment of machinists' hand tools and fixtures.

Engineering Laboratory. The work in the laboratory begins in the second half of the Junior year with tests upon steam engines, pumps, injectors, etc., and is followed during the Senior year by boiler trials, the use of dynamometers, hydraulic experiments, and the testing of materials of construction. A twenty-five horse power Harris-Corliss engine, which also supplies power for the shops, two smaller vertical engines, and a fifty horse power tubular boiler are available for engine and boiler tests. The laboratory contains also a surface condenser and air pump, a large duplex steam pump, a pulsometer, two friction brakes, two transmission dynamometers, indicators and planimeters, several steam calorimeters, two steam injectors arranged for testing, a steam gage tester, and numerous minor pieces of apparatus used in connection with these. For work in hydraulics there is provided an orifice tank, arranged for both high and low heads, one large and two small weighing tanks with scales, a twelve-inch weir, a three-foot weir, a Venturi meter, and a hydraulic ram. This equipment will be still further increased during the next two years.

SYNOPSIS OF COURSES

FRESHMAN YEAR	A	B	SOPHOMORE YEAR	A	B
Mathematics 1*a, b & c	6	5	Mathematics 2*a & b	4	4
Drawing 1a	2	2	Mechanical Engineering 1a & b	2	2
Shopwork 1		2	Drawing 1b	2	1
Chemistry 1a & b	4	4	Shopwork 2a & b	2	2
Hygiene	1	1	Physics 1	4	4
English 1	2	2	English 2	2	2
French 1, or			French 2, or		
German 1	4	4	German 2	3	3

JUNIOR YEAR	A	B	SENIOR YEAR	A	B
Mechanics 1a, b & c	4	4	Mechanics 3a & b	4	1
Mechanical Engineering 2a & b	4	4	Eng. Construction 1a & b	2	2
Mechanical Engineering 5a		2	Mechanical Engineering 3a & b	4	4
Drawing 1c	3	2	Mechanical Engineering 3c	3	3
Shopwork 3a & b	3	3	Mechanical Engineering 5b		2
Political Science 1	3	3	Mechanical Engineering 6		2
			Electric Motors	2	
			Shopwork 4	3	3

See pages 22-44.

ELECTRICAL ENGINEERING

The purely technical subjects of the course may be briefly outlined as follows: During the sophomore year the work is confined mostly to the study of electrical units, the laws governing the steady flow of currents, calculations on the magnetic circuit, the fundamental principals underlying the action of the dynamo together with such fundamental phenomena as constitute the elements of electrical engineering. It is thought that keeping the student's mind fixed on the subjects of his chosen profession even during vacations is of so unquestioned an advantage that during the vacation between the sophomore and junior years he is expected to solve certain assigned problems to be presented as a memoir at the beginning of the junior year. The lecture work of the first term of the junior year is devoted almost entirely to the study of dynamo-electrical machinery, taking up in detail the construction of direct current dynamos and motors of all types. The second term is given to study in detail of the subject of electric lighting, including all the apparatus and methods employed from the central station to the lamps. A one-hour course running throughout the year covers the instruments and systems of telegraphy and telephony as employed commercially. The laboratory work of this year covers the determination of characteristic curves, dynamo and motor efficiencies, etc. During the vacation between the junior and senior year the student is required to design in detail a dynamo or motor to fulfil assigned conditions and also to report on the inspection of some existing electrical lighting or power plant.

The lecture work of the senior year is of two kinds. The theoretical subjects include the analytical and graphical treatment of circuits containing resistance, self and mutual inductance and capacity, the design of transformers, the study of the theory and operation of polyphase generators and motors, and measuring instruments. The practical subjects comprise the general treatment of the follow-

ing important branches of electrical engineering; the designing of complete lighting and power plants, including the discussion of the best arrangement of power stations as to size, number and type of units; calculations on laying out distributing system, etc.; also the details of construction and operation of electric railways, dealing with such questions as the possible uses of multiphase currents, rotary converters, storage batteries, etc. Some time is also devoted in this year to electro-chemistry, specifications, etc. The laboratory work of senior year is devoted chiefly to experiments with alternators, transformers and other apparatus suitable to illustrate the theoretical and practical subjects taken up in the lecture room. The facilities of the laboratories in the second term are to be employed in the preparation of a graduating thesis, and original work is required of each student.

The Electrical Engineering Laboratories are situated in the Williams Science Hall, and through the generosity of Dr. Williams have been well equipped with many standard electrical instruments and machines. The two laboratories in the East wing contain the following dynamos and motors: a direct current 25 kilo-watt 110 volt dynamo; a 5 H. P. 110 volt motor; a 5 kilo watt machine, designed specially for experimental purposes and provided with duplicate parts; a Thompson-Houston arc-light dynamo; and a Westinghouse 10 H. P. machine of special design, which can be used as a direct-current dynamo or motor, as a self-exciting alternator or two-phase generator, or as a two-phase motor and rotary converter. All these machines can be driven by belts from a line shaft which is itself driven by a Westinghouse 25 H. P. three-phase motor. The latter is operated by current from the wires of a local company and can therefore be started instantly whenever needed. A large number of portable and accurate instruments of the most modern varieties are available for making tests, and the laboratories contain such other accessory apparatus as are necessary for rapid and complete tests. In the "railway" laboratory are two 50 H. P. Thompson-Houston 500 volt street-car motors, a K-2 series-multiple controller,

and two friction dynamometers capable of absorbing the entire output of the motors. These are mounted and connected so that their efficiencies and power may be accurately determined under many conditions of loading.

Two rooms are devoted to photometric work. These contain a Reichsanstalt photometer with numerous accessories and light standards, a mercury pump, a storage battery, etc. A room in the basement is fitted up as an electro-metallurgy laboratory, and furnished with a low-voltage dynamo, a slate switch-board, vats, etc. For original experiments in connection with graduating thesis, many instruments of high precision are placed at the disposal of Senior students, and a workshop containing a lathe, bandsaw and other tools operated by a Stanley electric motor, affords opportunity for the construction of special apparatus.

SYNOPSIS OF COURSES

FRESHMAN YEAR	A	B	SOPHOMORE YEAR	A	B
Mathematics 1*a, b & c	5	5	Mathematics 2*a & b	4	4
Drawing 1a	2	2	Mechanical Engineering 1a & b	2	3
Shopwork 1		2	Drawing 1b	2	1
Chemistry 1a & b	4	4	Shopwork 2a	2	2
Hygiene	1	1	Physics 1	4	4
English 1	2	2	English 2	2	2
French 1, or			French 2, or		
German 1	4	4	German 2	3	3
			Elements of Electrical Eng.	2	2

JUNIOR YEAR	A	B	SENIOR YEAR	A	B
Mechanics 1a, b & c	4	4	Hydraulics	4	1
Mechanical Engineering 2a & b	4	4	Engineering Construction 1a & b	2	2
Mechanical Engineering 5a		2	Shopwork 4	3	3
Drawing 1c	3		Alternating Currents	3	3
Shopwork	2	2	Electric Railways	2	
Dynamo	3		Electric Power		2
Electric Lighting		4	Electrochemistry		1
Telegraphy and Telephony	1	1	Elect. Specifications		1
Elect. Eng. Laboratory	3	3	Elect. Eng. Laboratory	3	3
			Thesis		2

See pages 22-44.

DEPARTMENT OF CHEMISTRY

FACULTY

MATTHEW H. BUCKHAM, D. D., LL. D. President.
NATHAN F. MERRILL, Ph. D. *Chemistry.*
GEORGE H. PERKINS, Ph. D. *Natural History.*
LEWIS J. HUFF, A. M. *German.*
ARCHIBALD L. DANIELS, Sc. D. *Mathematics*
FREDERICK TUPPER, JR., Ph. D. *English Language and Literature.*
ALLISON W. SLOCUM, A. M. *Physics.*
CHARLES F. WHITNEY, B. S. *Gen. Chem. and Qual. Anal.*
HENRY AUGUSTUS TORREY, Ph. D. *Physical and Physiol. Chem.*
ELBRIDGE C. JACOBS, B. S. *Mineralogy and Assaying.*
WILLIAM D. BRIGGS, Ph. D., *German.*
WILLIAM S. HAYES, A. B. *French.*

In this Department, during the first year, every student attends about seventy lectures and recitations in General Chemistry, and as soon after the beginning of the year as it seems advisable, enters the laboratories, where he pursues graded and systematic work, beginning with a schedule of experiments designed to illustrate fundamental principles and cultivate familiarity with the common elements and their compounds. From the outset quantitative methods are followed as far as practicable.

Qualitative Analysis is next studied. The work includes the use of the spectroscope and the examination of commercial products. Lectures and recitations continue through the course.

After the completion of Qualitative Analysis, Quantitative Analysis is begun, the student proceeding through the simpler determinations to more difficult analyses. The course embraces gravimetric and volumetric methods with applications to analyses of commercial products. Occasionally the students meet together and present statements of work done in the laboratory with discussion of methods, etc. In this way each student may derive benefit from the work done in the laboratory by the entire class.

In the Senior year Organic Chemistry is taken up both in the class-room and in the laboratory. This course involves the preparation of organic compounds and their analysis. Students of ability will be encouraged to undertake original investigations under the special supervision of the head instructor.

Lectures are given upon Industrial processes and these lectures are occasionally supplemented with excursions to manufacturing establishments. In the third year facilities are offered, and instruction is given, in Crystallography, Mineralogy and Assaying of Ores by both fire assay and wet assay. A short course of lectures on the History of Chemistry is given.

During the Junior year instruction is given in those parts of mechanical engineering which have a direct bearing upon the chemical industries. This work includes lectures upon prime movers, boilers and pumps, the elements of machines and the proportioning of shafting, pulleys and belts, together with some actual practice in the management of boilers and steam engines. In the Senior year, a course on electric motors is given.

SYNOPSIS OF COURSES

FRESHMAN YEAR	A	B
Chemistry, lectures	2	2
Laboratory	2	2
Mathematics 1	5	5
Drawing	2	2
English 1	2	2
French 1	4	4

SOPHOMORE YEAR	A	B
Laboratory	3	3
Physics	4	4
German 1	4	4
English 2	2	2
French 2	3	3
E. History 1	3	
E. Analytics	3	

JUNIOR YEAR	A	B
Laboratory	4	7
Assaying	3	
Mineralogy with Blowpipe Determinations	3	
Stoichiometry	2	
Machinery and Motors	2	
Physiology	2	2
German 2	8	3
Commercial Organic Analysis		2
Physical Chemistry		2
E. Calculus	3	3

SENIOR YEAR	A	B
Laboratory	9-13	9-13
Organic Chemistry, lectures	2	2
Electric Motors	2	
Industrial Chemistry		
History of Chemistry		
Geology		3
Theses		
E. Physiological Chemistry	2	

The lectures in Organic Chemistry and in Industrial Chemistry are usually given to Juniors and Seniors together in alternate years.

Certain studies of the Senior year in the Classical Department may be optional with a corresponding amount of laboratory work throughout this year.

All the courses in Chemistry are open as electives to such students in the Classical and Literary-Scientific Departments as are qualified to pursue them.

After Freshman year, students will be required occasionally to write essays upon subjects relating to their principal study, and these will be criticised with respect to their correctness as English compositions.

It is desirable that applicants for admission to full standing in the Department of Chemistry as candidates for its degree should have had the regular classical course—the usual preparation for College—at some school whose certificates are recognized by this University. The requirements as to Mathematics, English, History (ancient history excepted), Geography, French and German, are the same as are found on pp. 17 and 18. Candidates for a degree in this department must have had in their preparatory courses two years of instruction in either Latin, French or German, or must pass examinations representing that amount of linguistic training.

Students who can pass the examinations of the first year in French, may take the second-year courses in that study in their Freshman year. Those who begin French in Freshman year and German in Sophomore year must continue French through Sophomore year. Students who begin German in Sophomore year must continue German during Junior year. A two years' course in both French and German is required for students who have had neither of these languages.

Students showing proper qualifications may be admitted to a special course in Chemistry by permission of the President and of the Professors of the Department, but such students cannot receive the degree.

DEPARTMENT OF AGRICULTURE

FACULTY

MATTHEW H. BUCKHAM, D. D., LL. D. President *Political Science*
JOSEPH L. HILLS, B. S., Dean *Agricultural Chemistry*
GEORGE H. PERKINS, Ph. D. *Natural History*
SAMUEL F. EMERSON, Ph. D. *History*
NATHAN F. MERRILL, Ph. D. *Chemistry*
ARCHIBALD L. DANIELS, Sc. D. *Mathematics*
LEWIS J. HUFF, A. M. *German*
JOSIAH W. VOTEY, C. E. *Surveying and Road Making*
LEWIS R. JONES, Ph. B. *Botany*
ARTHUR W. AYER, B. S. *Mechanical Engineering*
FREDERICK TUPPER, JR., Ph. D. *Rhetoric and English Literature*
ALLISON W. SLOCUM, A. M. *Physics*
FRANK A. WAUGH, M. S. *Horticulture*
FRANK A. RICH, V. S., M. D. *Veterinary Medicine and Stock Breeding*
ELBRIDGE C. JACOBS, B. S. *Mineralogy*
JAMES EATON, *Shop Work*
CLIFTON D. HOWE, A. B. *Botany*
WILLIAM S. HAYES, A. B. *French*
WILLIAM A. COIT, Ph. B. *Mathematics*
C. E. TOOF, *Dairying*
DUNCAN STUART, B. S. *Dairying*

The studies of the Agricultural Department are intended to impart both the theoretical and the practical knowledge necessary to success in farming, and at the same time to include enough of mathematics, literature, science and philosophy for a broadly scientific education.

Agriculture occupies a leading place in the course for three years. The course in Chemistry given during the Freshman year enables the student to gain a more thorough understanding of soils and fertili-

zers; while the instruction in Botany, begun in the first half of Sophomore year, prepares the way for the intelligent consideration of the values, uses and cultivation of grasses, forage plants and crops of all kinds. Agricultural literature is considered early in the course, that the student may know how to handle those useful agricultural tools known as books.

Stock Feeding and Breeding are taught by lectures, text-book and practical application. The students are instructed in the principles of animal nutrition, the adaptability of various fodders and feeds for farm purposes and the better methods of feeding. Abundant opportunity for illustration of breeds of live stock and for instruction in scoring animals is afforded at the Farm and in the near vicinity.

Exceptional facilities for instruction in dairying are afforded in connection with the Dairy School, where several of the better styles of separators, churns, butter-workers, milk-testers, etc., are in use, and the student has an opportunity to become familiar with the various systems of handling milk, and expert in manipulating the apparatus.

Critical studies of the work of American and foreign Agricultural Experiment Stations are made in connection with each of the agricultural courses, by lectures, collateral reading and theses. Original investigation in agricultural or allied lines is required throughout Senior year in preparation for graduation thesis.

Botanical subjects are studied during the last three years of the course. The work begins with a careful study of the plant cell as fundamental to an understanding of vegetable structure and physiology. This is followed by a study of typical species of the lower plants with reference to their special structure, physiology, development and relationship. In the work upon Systematic Botany especial attention is given to the grasses, the clover family, weed-plants and trees. Elective courses in Morphology, Embryology, and Physiology of Plants, offer opportunity for further work along similar lines. During

the course in Plant Pathology a study is made of the nature and causes of plant diseases and the remedies for the same. In connection with this work there is opportunity for special bacteriological studies. The spraying apparatus used in the Experiment Station work, the facilities of the green-houses, bacteriological laboratory, and collections of dried and alcoholic specimens furnish opportunities for work of a thoroughly practical nature.

The new Botanical Laboratories in the Williams Science Hall are supplied with simple and compound microscopes, paraffin baths, microtomes, bacteriological apparatus, a special plant room and apparatus for the experimental study of the physiology of plants, photographic apparatus and dark room. The Herbariums of the University and the Experiment Station are open to students who are prepared to use them with profit.

Horticulture is required of students in the Agricultural course through one year and a half. As far as possible horticulture is brought into vital connection with modern scientific thought. The student is prepared to solve whatever problems may confront him, rather than taught by rote the empiricisms of a handicraft. Every effort is made to secure directness and accuracy in original investigation and to foster an intelligent love for horticultural pursuits. Orchards, gardens, green-houses and laboratories are open to constant use.

Veterinary Science is a required study during one-half of the course. The student learns first the general structure of domestic animals by lectures, by the examination of charts, models and museum specimens, and by the dissection of the animals themselves. The physiology of domestic animals is next studied, and then the microscopic structure of the various parts. The common diseases and their remedies are discussed in lectures, and free clinics are held for studying these diseases in the living animals. The subjects of inoculation, disinfection and immunity are considered in connection with the study of contagious diseases.

The Required work in mathematics includes Solid Geometry, Advanced Algebra and Trigonometry. More or less extended courses are required in Chemistry, Entomology, Geology, Mineralogy, English, and either French or German.

Electives. During the last two years students are allowed to select studies under the advice of instructors from any of the academic departments of the University.

The Billings Library and that of the Experiment Station are well supplied with standard works in the various departments of agriculculture, and the leading agricultural, horticultural and botanical journals are found in the Reading Room.

Students in the Agricultural Department are subject to the same regulations and requirements as other students, except that residents of Vermont are not required to pay tuition. There is opportunity for several students to defray a part of their expenses by work.

Short Course in Agriculture

Students who do not wish to take the full four years' course may take a special course of one year, or of two years, selecting such studies as they are fitted to pursue. Such students may receive Certificates of Proficiency, but are not candidates for a degree.

SYNOPSIS OF COURSES

FRESHMAN YEAR	A	B	SOPHOMORE YEAR	A	B
Mathematics 1	5	5	Agriculture 1	5	
Chemistry 1	4	4	Botany 1	4	
English 1	2	2	Veterinary Science 1	2	
French 1, or			English 2	3	3
German 1	4	4	French 2, or		
Hygiene, lectures	1	1	German 2	3	3
			Agriculture 2		1
			Agriculture 3		2
			Botany 2		3
			Veterinary Science 2		3
			Horticulture 1		3

JUNIOR YEAR	A	B	SENIOR YEAR	A	B
Agriculture 4	4		Original Investigation for Thesis	3	3
Veterinary Science 3	2		Mineralogy	3	3
Horticulture 2	3		Geology		
Agriculture 5		3	Botany 4, or		
Horticulture 5		3	Veterinary Science 4		3
Veterinary Science 4, or					
Botany 4		3			
Entomology		2			
E. Landscape gardening			E. Biology of Animals		
Plant Morphology, Embryology and Physiology, Forestry, Shop Work, History, French, German			Bacteriology		
			Road Making, History		
			Political Science		
			Philosophy, Anthropology		

Dairy School

The tenth annual session of the Dairy School begins on Wednesday, January 2d, 1901, and closes on Saturday, February 2d. The school is designed to teach in a practical manner the manufacture of butter with the latest and most improved apparatus. Three courses aggregating about fifty lectures are given on the constitution and production of milk, its creaming and churning, best methods of handling, testing, etc. Text-books with quizzes are used so far as practicable. Several hours of actual work with dairy machinery are given each day.

The class is limited to fifty, and in previous years this or a larger number of students has attended the school. The names of the class of 1900 will be found on another page. [See Index.]

DEPARTMENT OF COMMERCE AND ECONOMICS

In harmony with an educational movement which is in progress in the leading institutions of the United States and Great Britain, the Trustees of the University of Vermont have decided to organize a Department of Commerce and Economics. The coming century promises to be one of great industrial and commercial enterprise, and

presents at once a demand and an opportunity for men of trained business ability. While native endowments and practical experience will always be leading features in business success, it is believed that in the sharper competitions of the future a decided advantage will accrue to those who have had a training wisely adapted to secure those qualities and habits, mental and moral, which promote business efficiency.

The demands and opportunities presented by a greatly enlarged and improved public service also call for an adaptation of educational methods to these new conditions.

As this department is a new one in our Universities we shall endeavor to learn gradually and by careful study and experience, what course, or courses, will best accomplish the end in view. But the plan which naturally suggests itself is to lay a broad basis of thorough training in English, the modern languages, the mathematics, history, political and social science, and to add specialized courses in economics, commercial geography, commercial law, the history of industrial development, statistics, and to some extent the details of industrial processes and business operations and methods, such as book-keeping, banking and financiering.

In accordance with these ideas, courses are now offered as on pages 30+ of this catalogue.

I. Economics

In the Junior year, the course is introductory, designed to acquaint the student with the general principles of economics. In the second term special attention is given to such practical problems as taxation, wages, hours of labor, trusts, banking and currency legislation. It will be conducted by lectures, discussions and prescribed readings and can be taken with profit by those who do not intend to pursue the study further.

The Senior course treats, in more detail, subjects already begun. Topics will be assigned calling for investigation in the publications of the United States government of which the University library

contains a practically complete collection. The aim will be to make the student familiar with the sources of information and thus able to investigate independently. Allied courses in Sociology are given in the department of History.

A course in Economic History with special reference to the Financial and Industrial History of the United States will be given in 1901-02.

II. Government and Law

In the Senior year, under the title Constitutional Law, the course offers instruction in the origin, growth, interpretation and administration of the National Constitution, together with a similar study of typical State constitutions.

In Commercial Law it is the purpose of the course to acquaint the student with the elementary principles of the common law relating to contracts in general and to the more frequent kinds of contracts met with in business,—agency, partnership, negotiable paper.

In Comparative Politics, the instruction, by lectures and required readings, is designed to acquaint the student with the growth of the federal form of government in Europe and America.

International Law will be taught by text-book (Lawrence), by lectures and by examination of the great cases.

III. Language and Literature

The course offers instruction in four modern European languages —French, German, Italian and Spanish, of which the two last named may be taken as electives. The details of the work in these languages are given in previous pages. It is sufficient here to announce that the design of the instruction is to acquaint the student with the form, structure and literature of these languages as far as is possible in regular university work. The importance of French, German and Spanish in business is well recognized by the public and the instruction in these languages is made as practical as possible.

IV. Business Law and Practice

In addition to the instruction in commercial law, the course offers practical instruction in accounting; the principles and methods of keeping books by both single and double entry. Following out the same practical lines, instruction is given in stenography and typewriting.

VERMONT AGRICULTURAL EXPERIMENT STATION

BOARD OF CONTROL

Pres. M. H. Buckham, *ex-officio, Chairman*
Hon. E. J. Ormsbee, *Brandon*
Hon. Cassius Peck, *Burlington*
Hon. G. S. Fassett, *Enosburgh*

OFFICERS OF THE STATION

J. L. Hills, B. S. ..... *Director and Chemist*
G. H. Perkins, Ph. D. ..... *Entomologist*
L. R. Jones, Ph. B. ..... *Botanist*
F. A. Waugh, M. S. ..... *Horticulturist*
F. A. Rich, V. S., M. D. ..... *Veterinarian*
Hon. Cassius Peck, ... *Farm Superintendent*
C. H. Jones, B. S ..... *Chemist*
B. O. White, Ph. B ..... *Assistant Chemist*
G. W. Strong ..... *Dairyman*
Mary A. Benson ..... *Stenographer*
Hon. E. H. Powell, A. M. ..... *Treasurer*

The Experiment Station was established as a department of the University of Vermont and State Agricultural College in 1886. The State made a small appropriation to it for four years. The General Assembly of 1898 passed a bill providing for certain expenses incurred in the observance of the State law. Since 1888 it has received the funds appropriated by Congress under the provisions of the Act commonly known as the "Hatch Act," approved March 2, 1887. The object and duty of Experiment Stations thus established in connection with the Agricultural Colleges of the country is stated in Section 2 of that Act as follows: "It shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants and trees for acclimation; the analyses of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories."

It is the wish of the Board of Control to make the Station as widely useful as its resources will admit. Every Vermont citizen who is concerned in agriculture, whether farmer, manufacturer or dealer, has a right to apply to the Station for any assistance that comes within its province to render, and the station will respond so far as lies in its power. All communications relating to agriculture, horticulture, plant or animal disease, insects, etc., are fairly considered, and so far as possible, promptly answered.

The Station acts as a bureau of information upon matters of agricultural interest in a five-fold manner:

1. By the investigation of matters pertaining to the science and practice of agriculture and by the publication and distribution of the results of experiments in the form of Bulletins and Reports.

2. By articles appearing in the agricultural and general press.

3. By direct correspondence with individuals of all classes, particularly with farmers.

4. By the personal contact of members of the station staff with the farming community at institutes, fairs, by visits, etc.

5. By so conducting farm operations that visible and tangible evidence of the results of the application of science to agriculture may be shown to all interested.

The Station has issued since its establishment thirteen annual Reports and eighty-two Bulletins. The publications of the past year have aggregated nearly 500 pages of printed matter. The reports and bulletins of the Station are sent upon application, without charge, to any address.

MILITARY INSTRUCTION

In accordance with an Act of Congress, an officer of the United States Army is stationed at the University as Professor of Military Science and Tactics, and male students in the departments of Arts and Sciences are required to take part in Military drill and instruction three hours each week. A neat, inexpensive uniform is worn during drill.

The drills take place twice a week and are so conducted as to afford healthful exercise, which, while not severe, tends to develop an erect figure and carriage. A building 150 by 70 feet is used as an armory, and a course of military gymnastics is combined with the drill. The military discipline, though enforced only during the

hours for drill, is designed to develop soldierly honor and those ideas of promptness, order and obedience to lawful authority which are applicable to all callings in life.

The theoretical instruction is given to each class once a week by recitations, lectures and practical work. It embraces, besides the Drill Regulations of the U. S. Army, the elementary principles which govern the art of war, such as officers of a volunteer army should be conversant with when first called into the field.

Students are marked as in other courses of instruction, and upon the graduation of each class, the names of those students who have shown especial aptitude for military service are reported to the United States War Department and to the Adjutant General of the State, and the names of the three most distinguished students in Military Science and Tactics are inserted in the United States Army Register.

[Although the War Department is still unable to detail an army officer to give instruction in this branch, military drill will be continued, as during the last two years, under the direction of the officers of the cadet battalion.]

MILITARY ORGANIZATION

The students are organized into a battalion consisting of four companies. The officers are taken from the Senior class, the sergeants from the Junior class, and the corporals from the Sophomore class.

The following is the Roster of officers and non-commissioned officers for the present year:

MAJOR AND COMMANDANT
Howard Russell Smalley

FIRST LIEUTENANT AND ADJUTANT
Edward Hanson Reed

FIRST LIEUTENANT AND QUARTERMASTER
Alfred John McKellow

Captains

1. Aaron H. Grout, commanding Company A
2. Dean H. Perry, commanding Company D
3. Martin A. Pease, commanding Company B
4. Carl N. Thomas, commanding Company C

First Lieutenants

1. Edwin W. Lawrence
2. Fred C. Locke
3. Albert F. Ufford
4. Clifford B. Griswold
5. Graton S. Brand
6. Patrick M. J. Corry
7. Albert W. Butler
8. Silas R. Carpenter
9. Ernest H. Buttles
10. Roy S. Morse

Second Lieutenants

All other Seniors who have been members of the battalion.

Sergeant Major, Abbott T. Hutchinson

Quartermaster Sergeant, Ernest D. Clapp

Chief Musician, Frank C. Kelton

First Sergeants

1. Luther D. Beckley
2. Carey P. Williams
3. George O. Bryant
4. Don M. Rice

Sergeants

1. Harry P. Hudson
2. John M. Wheeler
3. Levi P. Munson
4. William E. Putnam
5. Adin C. Woodbury
6. Forrest M. Larchar
7. Richard H. Taylor
8. Arthur D. Welch
9. Louis F. Martin
10. Albert O. Smith
11. Arthur S. Bean
12. Fayette E. Hubbard
13. Frank G. Taylor

REGULATIONS

ABSENCES

1. The Absences of students are in charge of a Committee of the Faculty.

2. Students in all departments of the University, with the exception of those in the Medical department, are required to attend Prayers in the Chapel on all mornings when they have a college exercise the first hour.

3. Students not in their seats at Chapel when the bell ceases tolling are marked absent.

4. A student's Unexcused Absences from Chapel exercises must not exceed twenty-five per cent of the whole number of the exercises which he is obliged to attend under § 2. Such unexcused absences are treated as specified in §§ 7 and 8.

5. Excuses for absence will in general be granted only for sickness, and for absence incurred by students who are obliged wholly or in part to support themselves, while actually engaged in work for such support.

6. The number of unexcused absences allowed in any subject during the half-year is the same as the number of exercises held weekly in that subject. Thus in a two-hour course two absences are allowed during the half-year; in a three-hour course three absences, etc.

7. A student whose unexcused absences during a half-year exceed the number allowed in § 6 is placed on probation, and his parent or guardian is notified of his delinquency. A student who is placed on probation is not allowed to take part in the work of any students' organization, such as the Base Ball Nine, the Glee Club, etc. (also similar class organizations), nor may he attend the convention of any secret society or other organization meeting out of town. Probation in one study deprives a student of unexcused absences in all other

studies. *In every case probation remains in effect until removed by the Absence Committee.*

8. A student who, after being placed on probation, incurs further unexcused absence from required exercises in the same study in which he has been delinquent, is suspended on vote of the Absence Committee for a period of not less than ten days. While under suspension a student, if he lives away from Burlington, is required, in case the Absence Committee so direct, to return to his home. If his home is in Burlington, he is required to absent himself from the University grounds.

9. No student may be absent from Burlington, when such absence involves failure to attend any required exercise, without the permission of the Absence Committee; and leave of absence for the purpose of attending the exercises of any students' organization must also be obtained beforehand from the Committee.

10. After a Recess work is resumed with the first afternoon exercise.

11. For one day before and one day after a Recess each absence counts as two.

12. Excuses for absence must be put in writing, dated and signed, and deposited with the Secretary of the Absence Committee. Such excuses must be presented within two weeks after the absences are incurred, otherwise they will not be considered by the Committee. In case of sickness the Committee may require the certificate of a physician.

ATHLETICS

1. No athletic contest shall take place before four o'clock in the afternoon on any day but Saturday.

2. All arrangements or schedules for contests to take place out of Burlington must be submitted for approval to the Athletic Committee.

3. At least two weeks before an intended contest, the manager of any athletic organization shall submit to the Athletic Committee for its approval a list of candidates for the team.

No student will be permitted to join or continue as a member of any athletic, musical or other similar college organization unless he maintain a fair standing in all the studies of his course. The membership of such organizations shall be subject to the approval of the Committee on Studies.

Special students are not eligible to any such college organization.

EXAMINATIONS

At the close of each half-year examinations are held in the studies of that half-year. These examinations may be written, or oral, or both written and oral, or a thesis or equivalent exercise may be substituted at the discretion of the Instructor. A record is kept of the character of each student's work for the half-year and a transcript sent to the parent or guardian.

Those whose scholarship exceeds a minimum pass-mark, 60 per cent., are grouped in four classes, designated by A, B, C and D, A being the highest. Those who fail to reach a standing of 60 per cent. are assigned to a group designated by X. Absence from an examination, unless previously excused by the Instructor, is regarded as a failure. If so excused an E is recorded.

The Faculty will recommend for graduation *only those students whose work is completed by 6 P. M.* of the Wednesday preceding Commencement.

PROMOTIONS

Students are promoted from class to class at the opening of the college year by vote of the Faculty, upon recommendation of the Committee on Studies. Those who fail of such promotion are re-

garded as belonging to the lower class and will be so designated in the Catalogue.

Promotions will be withheld as follows:

1. From any Freshman who has not removed all entrance conditions before the opening of the Sophomore year.

2. From any student who has conditions aggregating eight hours for a half-year.

3. From any student who has conditions of a half-year's standing aggregating four hours for a half-year.

Written notice, informing him of the nature of his conditions, is sent by the Committee on Studies as soon as possible after Commencement to each student who is in danger of not being recommended to the Faculty for promotion at the opening of the next college year. Failure to receive such notice, however, will not constitute a valid objection to the operation of the above rule.

CONDITIONS

Either an E or an X constitutes a condition. The removal of conditions is governed by the following regulations:

Examinations for the removal of conditions are held at 2 P. M. on the first three days of each examination period and at 9 A. M. and 2 P. M. on the Tuesday preceding the opening of the college year.

If a student fail to remove a condition at one of these examinations within a half-year from the date at which it was incurred, he will be required to repeat the work in class or with a competent tutor at the option of the Instructor. Such work, when repeated in class, shall take precedence in case of conflicts in the hour-plan. If the student fail to pass after having repeated the work of the half-year, as required above, he loses his standing and ceases to be a member of the University, unless allowed by special vote of the Faculty to continue on probation.

For students conditioned the first half of Senior year, a special examination will be held at 2 P. M. on the first Saturday after the

Spring Recess. A student failing to remove his conditions at this time loses his standing and ceases to be a candidate for graduation with that class.

RELIGIOUS SERVICES

The Institution, while not connected with any particular denominational body, and having members of many communions in its Board of Instructors, aims to impress religious truths and obligations upon all students. A responsive Religious Service is held every morning in the College Chapel, which the students are required to attend.

A flourishing Young Men's Christian Association of students is maintained, and is in close union both in sympathy and co-operative work with the Young Men's Christian Association of the city. The young women of the University also maintain a similar organization. The numerous churches of the place give to the students hospitable welcome to their services and activities. Three voluntary Bible classes are conducted by members of the Y. M. C. A. One studies the Life of Christ; another, the Records of the Apostolic Age; and the third, portions of the Old Testament.

HONORS

Honors may be awarded at graduation for general high standing in scholarship, and also for conspicuous attainment in a particular department, as provided below.

The candidate for Honors in general scholarship must have attained grade A in at least one-half of his work, grade B in at least one-half of the remainder, and have fallen below grade C in no department or subject.

Honors may be granted by the Faculty in any department of instruction comprised in the University, under the following conditions: The candidate must have taken with credit the equivalent of

six three-hour courses (i. e., eighteen lecture "hours" or "periods" extending through the year) in the subject offered, or in such cognate subjects as may have been designated or accepted by the Head of the department in which honors are sought. He must also have passed satisfactorily a special examination in such additional work as may have been accepted or assigned by the Instructor; or have presented a satisfactory thesis on a subject previously approved; or have fulfilled both these conditions, as the Instructor in charge of the department may determine.

Applicants for Honors in special fields must make application to the Faculty in writing not later than November 1 in their Senior year; and must prepare their theses and be ready for the special examination not later than May 10.

The Honors awarded at graduation shall be indicated on the Commencement program, and the graduate who wins Honors for general high standing may have the words *cum laude*, or *magna cum laude*, inscribed on his diploma, the special addition to be determined by vote of the Faculty.

On the morning of Commencement Day an Honor List shall be published, containing the names of all who have gained honors at graduation; of all who have won prizes during the year; of those who are appointed to speak at Commencement; and of such other graduates as may have presented essays or theses of conspicuous merit. This List shall also be printed in the next annual catalogue, with the names of the speakers on Founder's Day, and of those graduates whose proficiency in Military Art and Science has gained for them a recommendation to the Adjutant-General of the State and to the War Department of the United States.

DEGREES

For the Degrees of Bachelor of Arts and Bachelor of Philosophy see page 15.

Degrees in Science

The Degree of Bachelor of Science *in Civil Engineering* or *in Electrical Engineering*, or *in Mechanical Engineering*, is conferred upon students in the department of Engineering, who have completed the courses of study corresponding respectively to these titles.

The Degree of Bachelor of Science in *Chemistry*, is conferred upon the completion of the work required by the Department of Chemistry.

The Degree of Civil Engineer may be conferred upon Bachelors of Science of this University, who have taken the Bachelor's degree for work in Civil Engineering, if they furnish satisfactory evidence that they have pursued further technical studies for at least one year, and in addition have engaged in professional work in positions of responsibility for another year.

The first of the above requirements may be satisfied by pursuing at the University, under the direction of the Faculty, a prescribed amount of study for a time, not necessarily consecutive, equivalent to a college year. If the candidate does not reside at this University, his course of study must be approved in advance by the Professor of Civil Engineering, and he must prepare a satisfactory thesis on some engineering topic, to be presented together with a detailed account of his professional work one month at least before the date of the annual Commencement at which he expects to receive his degree.

The conditions upon which the Degrees of Electrical Engineer and Mechanical Engineer are conferred upon Bachelors of Science of this University, who have taken these degrees for work done in Electrical Engineering and Mechanical Engineering, are analogous in character and amount to those given for the degree of Civil Engineer.

In the Department of Agriculture the degree is Bachelor of Science *in Agriculture.*

The Master's Degree

The degree of Master of Arts or Master of Science may be conferred upon resident graduates of one year's standing of this or of any

reputable college, and upon non-resident graduates of two years' standing of this University only, subject to the following regulations:

1. It is understood that a candidate in arts shall have taken the degree of Bachelor of Arts (or Bachelor of Philosophy), and that a candidate in science shall have taken the degree of Bachelor of Science. If any other sequence of degrees is proposed the candidate shall satisfy the faculty of his ability to do the work outlined.

2. Each candidate shall pursue a plan of study approved by the faculty. This plan must show a consistent and definite aim on the part of the candidate, and may include work in one or in more lines; and in mere time requirement must represent at least the equivalent of four three-hour courses for the year.

3. The plan of study must be submitted and the application for candidacy formally presented to the faculty before October 10 of the college year in which the degree is sought.

4. Each candidate shall present a thesis in his single or in his principal subject, giving the results of study undertaken since graduation. He may, in addition, be required to pass an examination before the faculty. The thesis must be presented not later than May 1st, and will be deposited, if approved, in the University Library.

5. Examinations, or theses, or both, may be required by the instructor or instructors under whose guidance the candidate is studying. If written examinations are given, copies of the examination papers will be kept on file in the University Library.

6. Resident candidates, if attending regular courses or performing laboratory work under regular supervision, will be charged the same fees as undergraduates. If working only under a general supervision they may be relieved of a part of the fees; but in no case will the fee for resident candidates be less than $25.00. The fee for non-resident candidates will be $25.00.

Students who are not candidates for a degree may be awarded Certificates for Proficiency in recognition of the work which they have done.

EXPENSES

The Tuition Fee is $60 per annum, one-half payable at the close of each half-year.

The annual fee of $20 for incidental expenses is charged against all students. one-half payable at the close of each half-year. This fee is a commutation sum for charges formerly made under several headings, and does not include charges for breakages, damages, etc., which are assessed upon the perpetrators, or, when they are unknown, upon the whole body of students.

Every student upon entering the University is required to pay a Registration Fee of $10. The payment of this completes the requirements for admission, and is in lieu of the first half-yearly installment of the annual fee.

All students pursuing Laboratory courses are required to pay for material and breakage. This fee varies, but has averaged in the department of Chemistry $15, in that of Mineralogy $5, in that of Physics $5, in that of Mechanical Engineering $5, and in the Biological laboratories $1.50, for the half-year. The fee will be $10 per half-year for all laboratory courses in Chemistry except Course 7b (Organic Laboratory) in which the fee will be $15 per half-year. Breakage an additional charge in all courses.

Every student pays an annual fee of $2 for supplying the Reading Room with periodicals.

A fee of $8 is charged for the Diploma given at graduation, and a fee of $5 for a Certificate of Proficiency.

An ordinary Scholarship cancels the amount of the tuition fee; a State Scholarship both the tuition and the annual fees. But no student shall have his scholarship credited upon his bills while his college work is in arrears, or while any charges stand against him on the Treasurer's books.

Special Students are not eligible to scholarships. They will be charged $10 a half-year for each full course of study (3 hours or more), and $5 for each half course (2 hours or less); $5 for the use of the

Library, and $5 as Registration fee; but in no case shall a Special student be required to pay more than the full tuition fee.

Payment of Bills

Students temporarily absent from the University are charged as if present. Students entering an advanced class are required to pay one-half of the back tuition, unless from another college. Interest at the rate of six per cent. will be charged upon all bills from the day on which they become due.

All students will hereafter be required at the beginning of each college year, before joining their respective classes, to present to the Committee on Studies the Treasurer's certificate that they have paid up all arrearages.

Rooms and Room Rent

Room Rent in the old College dormitories ranges from $15.00 to $37.50 per year, according to the location of the room and the number of the occupants. This does not include fuel and lights.

The students' rooms are furnished at the expense of the University. Students need to provide only carpets, mattresses, bed clothing and chamber ware. The beds are furnished with wire-mattresses. All rents include care of room by college servants.

The Converse Hall

The Converse Hall, completed in the year 1895, is an elegant and substantial four-story edifice in the collegiate-gothic style, built of Rutland marble, furnishing handsome suites (single and double) for about ninety students. It is heated by steam, finished throughout in hard wood and supplied with all necessary furniture in oak. There is a fireplace in each study and all the rooms can be lighted by electricity. Each of the three sections is supplied with bathing facilities, and one of them contains a Common Room for general uses. Besides the furniture supplied in the old dormitories, the bedrooms here are

furnished with hair mattresses, bolster, pillow and blankets. Rents for single suites range from $15.00 to $60.00; for double suites, from $45.00 to $55.00 for each occupant. All rooms are cared for by college servants.

The fine old mansion on Main street, lately occupied by Mr. Lawrence Barnes, and formerly by Gov. Van Ness, has been purchased and fitted up for the use of the young women students. It is surrounded by ample grounds and commands a delightful prospect. The household is under the supervision of a matron and a housekeeper. Board here is $4.50 and $5.00 per week, according to location of room and number of occupants.

There is a Commons Hall on the College grounds at which good table board is furnished to students at cost. The rate of board at present is $2.75 per week, or $2.50 if paid in advance.

Good board with room may be obtained in private families at $4.00 to $5.00 a week. Other expenses, for clothing, traveling, books, stationery, society and class taxes, etc., vary with the circumstances and habits of the student.

The Central Vermont and Rutland Railroads and the Champlain Transportation Company carry students for fare at mileage rates. To secure these rates, a certificate of membership in the University must be obtained from the Secretary, and forwarded to the General Passenger Agent.

The Williams Science Hall

completed in 1896, is a fire-proof structure of granite, brick, steel and artificial stone, with rich terra cotta decoration. It is of three stories, with a well-lighted attic available for laboratory work, and a basement also adapted to the uses of the Scientific Departments. It is supplied with the latest and best devices for heating and ventilation and for practical laboratory work, and is occupied by the Chemical, Physical, Electrical and Biological sections of the University.

SCHOLARSHIPS

Scholarships affording aid to students of limited means to the amount of tuition, have been endowed as follows:

The Washburn Scholarships, twelve in number, by Daniel Washburn, M. D., of Stowe, for the benefit of young men studying for the Christian ministry, or, in default of such applicants, of other deserving young men.

The Louisa H. Howard Scholarships, seven in number, by Miss Louisa H. Howard of Burlington.

The Sarah B. Jacobs Scholarships, seven in number, by Mrs. Sarah B. Jacobs of Boston, for the benefit of graduates of Brigham Academy, at Bakersfield, Vt.

The Bertram Scholarship, by John Bertram, Esq., of Salem, Mass.

The Green Scholarship, by Horace Green, LL. D., of New York city.

The Fairbanks Scholarship, by the Hon. Erastus Fairbanks, of St. Johnsbury,

The Parker Scholarship, by the Rev. Charles C. Parker, D. D., '41, in memory of himself and son, Charles Edmund Parker, '67.

The Westford Scholarship, by the Hon. L. P. Poland, LL. D., of St. Johnsbury.

The Converse Scholarship, by John H. Converse, '61, of Philadelphia.

The Edwin Wright Marsh Scholarship, endowed by Charles P. Marsh, Esq., '39, of Woodstock, in memory of his son of the class of 1872, for the benefit, in the first instance, of students from the town of Weathersfield, Vt.

The Charles Munson Marsh Scholarship, by the same, available first for students from Woodstock, if such apply.

The Charles P. Marsh Scholarships, five in number, available first for needy and worthy young men or women from the County of Windsor.

The Lizzie S. Converse Scholarship, by bequest of Miss Lizzie S. Converse of Burlington, for poor and deserving students in the Classical department.

The Rich Scholarship, by Charles W. Rich, Esq., '36, of St. Albans.

The Rich Scholarship, by the same, for the benefit, first, of students from the town of Swanton, Vt.

The Isle La Motte Scholarship, by N. S. Hill, Esq., of Burlington, for the benefit of students from Isle La Motte, and failing such, from Craftsbury.

The Shaw Scholarship, by the Hon. William G. Shaw, of Burlington, of the class of '49.

The Class of '61 Scholarship, endowed and made available in 1891.

The Smith Scholarship, by Mrs. Samuel Sidney Smith, of Burlington.

The Morrill Scholarship, by Senator Justin S. Morrill.

The Kimball Scholarship, by Robert J. Kimball of Randolph, Vt.

The Mary Hill Scholarship, by Mrs. Mary T. Hill, wife of Nathan S. Hill, formerly Treasurer of the University.

The Lizzie Allen Scholarships, four in number, by Miss Lizzie P. Allen, descendant of Ira Allen, Founder of the University.

Appointments are made to these scholarships by the Faculty from term to term, and are conditioned on the attainment of a certain grade of scholarship and on exemplary conduct. The benefit of a scholarship is forfeited and back tuition becomes due, if a student abandons his course unnecessarily, or to join another college.

The endowment of additional scholarships would enable the University to extend its benefits to those who cannot otherwise afford the expense of a four years' maintenance in College. The minimum endowment is one thousand dollars. The annual payment of $60 relieves one student from the payment of tuition alone; of $80, from the payment of tuition and annual fees.

State Scholarships

Thirty State Scholarships, covering tuition and incidental expenses in the Classical or Scientific Departments, are now available. By an Act of the Legislature of 1898 these scholarships are limited to a period of two years. Nomination to these scholarships rests with the senators from the several counties, to whom application should be made.

The Jeudevine Fund

now available in part, is loaned in small sums to "poor and deserving students" in the Classical and Scientific Departments, who are residents of Vermont. The loans must be well secured, and must be repaid within a specified time after the student leaves college. Applications may be made to the Treasurer of the University.

PRIZES

The Bissell Prize for Progress*

A prize of $25 will be awarded to the student who, in the judgment of the Faculty, is entitled to the greatest credit for effort and attainments in his studies upon completion of the Junior year.

The Kingsley Prizes for Elocution

Prizes of $25, $15 and $10 are offered to members of the Sophomore and Freshman classes for the best declamation of passages in oratorical prose.

The Julia H. Spear Prizes for Young Women

Prizes of $25, $15 and $10 are offered to young women of the University for excellence in reading.

---

*Named for the Rt. Rev. Wm. H. A. Bissell, D. D., 1836.

The Phelps Prize

A prize of $50 in gold, endowed in memory of the late Edward Haight Phelps, C. E., class of 1872, will be awarded by the Faculty each year at Commencement to a graduate of that year in Civil Engineering who shall have exhibited conspicuous merit in professional studies, and high and noble traits of personal character. A special certificate will accompany the prize, indicating the conditions upon which it has been awarded. In case no award shall be made in any year, the same amount of money will be expended in the purchase of books on the subject of Civil Engineering for the use of the Department.

The Howard Prizes

Mrs. Hannah T. Howard of Burlington left by will $1,200, the income of which is to be awarded in prizes. From the income of this fund, three prizes of $25 each will be awarded in 1901, to candidates for admission to the Freshman Class who shall pass the best entrance examinations in Greek, in Latin and in Mathematics.

THE LIBRARY

The Library of the University, selected with special reference to the several departments of study, contains 60,200 volumes, including the library of the late Hon. George P. Marsh, 12,500 volumes, a collection of the highest value in the departments of Philology, European Literature and History, and Physical Geography. This collection is the gift of the late Hon. Frederick Billings of Woodstock, and is deposited in a room especially provided and elegantly appointed to receive it. The whole library has been carefully arranged by subjects with accession and shelf catalogues. A Card Catalogue on the dictionary plan is in progress, being already complete for the subjects, Literature, Philology, History, Philosophy, Religion, Natural Science and portions of Sociology, Industrial Arts and Fine Art. A

full Catalogue of the Marsh Collection, by authors and subjects, has been published.

The beautiful and commodious Billings Library, erected at a cost exceeding $150,000, with a shelving capacity of 100,000 volumes, contains the general library of the University and the special collections, with the exception of such Scientific works as are deposited in the Reading Room of the Williams Science Hall.

The current Periodicals with many Cyclopædias and other works of reference are to be found in the Central Hall, while the Apse, originally designed for the Marsh Collection, is now appropriated to bound sets of periodicals, and such volumes as are reserved for special class use.

The Hawkins Collection of books and documents relating to the Civil War is shelved in a separate room for convenience of consultation. A recent important addition to the original gift brings the number of titles up to 1,739.

The Vermont books from the Chittenden Collection are also placed in a room by themselves, with the intention of ultimately gathering all documents which specially concern the history of the State into a Vermont Alcove, an arrangement which will be appreciated by all investigators of the early times.

A unique copy of Jackson's Treatise on Wood Engraving, with Chatto's Third Preface (London, 1839), deserves a separate note. The original work has been enlarged to four thick volumes by the insertion of more than one thousand illustrations, selected and mounted by Mr. Chittenden's own hand, with the intention of illustrating the history and development of the art from the beginning. The volumes contain many rare and costly prints, and represent an immense outlay of time and labor most lovingly bestowed.

From a friend whose name is withheld additional volumes have been received of the Jesuit Relations and Allied Documents, of which seventy volumes have now been placed on the shelves.

Among the friends who have remembered the Library with valuable gifts are the following:

Hon. G. G. Benedict 1847, 27 volumes; Hon. C. M. Depew; Rev. Charles F. Dole; Free Press Association through Henry J. Allen, 127 volumes; W. B. Howe, 7 volumes; Hon. S. A. Green, 22 volumes and 30 pamphlets; Charles A. Hoyt 1858, 10 volumes; Harry S. Howard, 37 volumes; H. W. Hill 1876, 10 volumes; M. A. Howe 1890; Gen. R. C. Hawkins, LL. D., 69 volumes; Bp. A. C. A. Hall, D. D., 61 volumes and 76 pamphlets; Miss Florence Lyman, 13 volumes; Senator Jonathan Ross, LL. D., 9 volumes; Henry M. Taylor, M. D., 3 volumes and 40 pamphlets; Hon. R. S. Taft, LL. D.

The whole number of accessions since the last issue of the catalogue is 3,100. The Stevens-Whittinghams collection of over 2,800 volumes is not included in the figures given above.

The Ware Collection of Photographs from the great Masters in painting and sculpture contains about 2,000 pieces.

The Lord Vernon Collection of casts from antique gems, 2,000 in number, the gift of Mrs. Frederick Billings, is the largest and most notable of its kind in the United States. The study of the gems may be facilitated by use of the Cori Collection, 12 folio volumes, descriptive of the treasures of art in the Florentine Museum.

The income from the various funds available for the increase of the Library, including Miss Maria Loomis' bequest of $10,000, amounts to a little over $1,000 a year.

The Library is open during term time from 8:30 A. M. to 6 P. M. on week days for consultation and drawing books, and for reading and reference on Sunday afternoons from 2 to 4 P. M., and every week day in vacation from 9 A. M. to 12 M., and from 2 to 4 P. M. The Reading Room of the Library is supplied with the leading scientific and literary periodicals. Persons not connected with the University have free use of the Library for consultation, and on special permission from the President or Librarian, are allowed to draw books. Students have also the use of the Fletcher Free Library, a collection of 26,500 volumes.

In the last summer vacation a subscription was started by the Chemical Department to supply certain deficiencies in its Reference Library. It is desired to raise about $2,500 for the completion of various series of chemical journals, and the purchase of others. The effort has met with a very gratifying response, as is shown by the subscriptions already received:

Hon. Elias Lyman 1870, $15.00.
Prof. J. R. Wheeler 1880, $10.00.
Frank R. Wells 1893, $25.00.
Hon. C. P. Smith, Burlington, $25.00.
Hon. G. G. Benedict 1847, $10.00.
John H. Converse 1861, $50.00.
Charles A. Catlin 1873, $100.00.
Mrs. A. E. Richardson, Burlington, $25.00.
Professor N. F. Merrill, $50.00.
Frederick Billings 1890, $100.00.
Mr. F. F. Ayer, New York City, $1000.00.

The Library Committee solicits gifts of books and pamphlets relating to Vermont History and the lives of natives of Vermont; also of books written by Vermonters or published in this State, and of files of State papers, especially of the first half of this century or earlier.

The Committee desires also to collect all books, essays, pamphlets, etc., written by Officers or Alumni of the University, and would esteem it a great favor if such writings should be sent to the Library for permanent preservation.

☞ *Of the Annual Catalogues of the University supposed to have been issued from 1810 to 1833, inclusive, the Library possesses only those of 1822, 1823, and March, 1825. The alumni and other friends are earnestly requested to help in completing our files.*

THE MUSEUM

The various collections exhibited in the Museum building, though primarily gathered and arranged with reference to study and for illustrating lectures, are of general interest. The rooms are accessible to the public on week days from 9 A. M. until 5 P. M. For the general guidance of visitors the following outline of the arrangement of the specimens is given :

On the first floor is the Mineralogical collection, which contains several thousand specimens representing nearly all the species mentioned in the manuals. Some of the specimens are unusually fine, notably a splendid series of Sicilian sulphurs, celestites and associated minerals collected by the Hon. George P. Marsh, and a number of Hartz Mountains and other European minerals collected by the Rev. Edward Hungerford. There is also an extensive series of the rocks of Europe and a very complete set of the lavas of Vesuvius, the gift of Mr. Hungerford. A nearly complete set of the rocks and marbles of Vermont and several hundred specimens of foreign marbles are also placed in this room, though only a part can be shown for lack of space. Besides foreign birds and mammals, there is a nearly complete representation of the mammals, birds and fishes native to this State, and an alcoholic collection of the reptiles and fishes of the United States. There is a smaller collection of mounted skeletons of vertebrates and numerous crania and other bones, including a perfect lower jaw of the sperm whale. The nest and eggs of many of the birds common in Vermont have been obtained and most of them are arranged in cases. On this floor is a fine bas relief, dating from about 875 B. C., taken from one of the palaces at Nimroud, the gift of Mr. John H. Converse.

On the second floor of the Museum building is a large collection of shells made up of selections from the original Museum collections and from those of the Hon. L. E. Chittenden and Prof. G. W. Benedict, which were given to the Museum a few years ago. To these the fine collection of Dr. William C. Hickok has recently been added. Smaller but good collections of corals, echinoderms and

sponges occupy cases near the shells. Of these the living forms are in many cases shown by the beautiful Blaschka glass models. The wall cases of this floor contain the collection of fossils. This is primarily intended to illustrate the geology of Vermont and all the horizons found in the state are well represented, but all the epochs recognized in the manuals are more or less fully represented by specimens from various American and European localities. Several important additions to this part of the Museum have been made during the past few years. Besides several hundred specimens of coal plants from the Carboniferous of Pennsylvania and Illinois, a considerable series of plant fossils has been obtained from the Cretaceous and Tertiary of the West. There has also been recently added a small, but valuable, collection of skulls and other parts of the skeletons of Vertebrates from the western Tertiary, including some very fine specimens of fishes from the Wyoming Green River shales.

The Archæological collections include the largest and by far the most important series of objects illustrating the prehistoric times of Vermont that has been brought together. There are several thousand specimens of the work of the former occupants of the Champlain Valley in stone, bone, copper, shell and earthenware, some of them very rude, others as finely formed and perfectly finished as the best from other parts of the United States. Smaller, but not unimportant, collections from the Ohio and Mississippi Valleys and from the Pacific coast are also displayed.

The Pottery of the mound-builders and of ancient and modern Pueblo tribes is represented by numerous examples and a very interesting collection consisting of several hundred jars, dishes and vases, stone and bone implements, basket work, bits of cloth, skulls, etc., etc., from cliff houses in Mancos Cañon, Colorado, has recently been placed in cases. There are a few specimens of stone and pottery from Mexico, and a much greater number from pre-Columbian graves in Nicaragua.

The Ethnological collection is constantly becoming of greater interest and value. It is placed by itself in a room recently added to

the main building. There are small, but in some cases at least very choice collections of the weapons, implements and ornaments of the natives of Australia, Polynesia, Africa and Oriental countries. The very fine Reed collection of objects collected among the Sioux Indians is of special interest, and similar specimens from the southern tribes are also exhibited.

In addition to the collections already mentioned there is a large Herbarium containing a complete series of Vermont plants as well as thousands of specimens from other parts of the United States and foreign lands. This is placed in a room specially prepared for it in the Williams Science Hall. There are also collections of native and foreign woods, and of fruits and seeds, with several thousand specimens of insects, chiefly from New England and the northern United States, and a good collection of Greek, Roman and modern coins. These latter collections are none of them located in the Museum building, but may be examined upon application to the Curator.

The most important addition to the Museum during the year is a large and exceedingly artistic group of beavers arranged to show the animal in its natural haunts. The group contains nine beavers of different ages, from six weeks to three years. There is a full-sized section of a lodge; part of a feeding ground with stumps, sticks, etc., cut by the animals; thirteen feet of a dam; and a representation of a part of the pond. The materials were collected by Mr. W. E. Balch of Lunenburg, in northern Maine, and the work has been done by him with the utmost fidelity to nature.

Another valuable addition is a very beautifully mounted specimen of a Leaping Tuna or Bonito which, when caught, weighed 114 pounds. This fish was taken in California by the Hon. D. P. Kingsley of the class of 1881, and by him presented to the Museum.

The Cannon Collection

The collection of Oriental objects obtained in India by the late Henry LeGrand Cannon and by him bequeathed to the University

is displayed in a room added to the Museum by special provision of the donor.

The collection includes fabrics and draperies, many of them exquisitely embroidered; bronze and porcelain lamps; chairs, stand, and screen of teak-wood elaborately carved; numerous articles of silver, chiefly ornamental; musical instruments; household articles of brass and iron, and other objects which cannot be catalogued here; armor, Indian, Persian and Japanese, some of it elegantly wrought with inlays of gold and silver; various articles of Tibetan origin, a shrine, prayer-wheel, amulets, etc., with fine specimens of European arms of the 15th and 16th centuries.

Should visitors find the Museum building closed, a key may be obtained at the Library.

THE PARK GALLERY OF ART

TRUSTEES

PRES. M. H. BUCKHAM *President ex-officio*
PROF. H. A. P. TORREY *Secretary*
HON. F. C. KENNEDY *Treasurer*
HON. G. G. BENEDICT COL. LEGRAND B. CANNON.

It is the aim of the Trustees of the Art Gallery to gather into a small but good collection, such works of art, paintings, engravings, models, casts, photographs, etc., as will serve to illustrate the history and the principles of both ancient and modern art. The nucleus of such a collection has already been secured. Contributions are solicited in any of the following classes, or funds for the purchase of the same:

1. Paintings—not copies—by either American or foreign artists. 2. Works of Sculpture: statues, busts, reliefs, medallions, whether originals or copies made under the eye of the sculptor. 3.

Original drawings. 4. Casts from noted sculptures. These are especially valuable in art studies and are comparatively inexpensive. 5. Bronzes, terra cottas, enamels, faiences, ancient vases, works in metal and glass, tapestries, etc., in which the artistic merit is conspicuous. 6. Valuable engravings, wood-cuts and etchings. 7. Photographs from originals of the great masters in painting, and from the best works in sculpture and architecture. 8. Works on art, biographies, dictionaries, criticisms, etc. The names of donors will be inscribed on works of art presented to the gallery.

DEPARTMENT OF MEDICINE

FACULTY

MATTHEW HENRY BUCKHAM, LL. D.
President

JOHN ORDRONAUX, M. D., LL. D.
Emeritus Professor of Jurisprudence

JOEL WILLISTON WRIGHT, A. M., M. D.
Emeritus Professor of the Principles and Practice of Surgery

ALBERT F. A. KING, A. M., M. D.
Professor of Obstetrics and Diseases of Women

JOHN HENRY JACKSON, A. M., M. D.
Professor of Physiology and Microscopic Anatomy

HENRY CRAIN TINKHAM, M. D.
Dean of the Faculty; Professor of General and Special Anatomy and of Clinical Surgery; Attending Surgeon to the Mary Fletcher Hospital

JAMES NATHANIEL JENNE, M. D.
Professor of Materia Medica and Therapeutics, and of Clinical Medicine

JOHN BROOKS WHEELER, A. B., M. D.
Professor of Surgery ; Attending Surgeon to the Mary Fletcher Hospital

ALOYSIUS O. J. KELLY, M. D.
Professor of the Theory and Practice of Medicine

PATRICK EUGENE MCSWEENEY, M. D.
Adjunct Professor of Obstetrics; Attending Physician to the Mary Fletcher Hospital and the Fanny Allen Hospital

FREDERICK RUBERT STODDARD, M. D.
Adjunct Professor of Materia Medica

LYMAN ALLEN, A. B., M. D.
Adjunct Professor of Physiology, and Assistant to the Chair of Surgery

HARRIS RALPH WATKINS, A. B., M. D.
Adjunct Professor and Demonstrator of Anatomy; Attending Physician to the Mary Fletcher Hospital

HORACE L. WHITE, B. S.
Professor pro tempore of Chemistry

EVERARD A. WILSON, M. D.
Assistant Demonstrator of Anatomy

PROFESSORS OF SPECIAL SUBJECTS

RUDOLPH A. WITTHAUS, A. M., M. D.
Professor of Toxicology

AUGUSTUS PALMER DUDLEY, M. D.
Professor of Surgical Diseases of Women

JUDSON EARL CUSHMAN
Professor of Medical Jurisprudence.

MARSHALL COLEMAN TWITCHELL, M. D.
Professor of Diseases of the Eye, Ear and Throat; Ophthalmologist to the Mary Fletcher Hospital

EUGENE FULLER, M. D.
Professor of Genito-Urinary and Venereal Diseases

HENRY DWIGHT CHAPIN, A. M., M. D.
Professor of Diseases of Children

OTTO H. SCHULTZE, A. M., M. D.
Professor of Pathology

ELLICE M. ALGER, A. B., M. D.
Professor of Dermatology

A. R. SHANDS, A. M., M. D.
Professor of Orthopædics

E. W. TAYLOR. A. M., M. D.
Professor of Diseases of the Nervous System

WALTER D. BERRY, M. D.
Professor of Diseases of the Mind

FOLLEN CABOT, JR., M. D.
Assistant to the Chair of Genito-Urinary Diseases

INSTRUCTORS

HORATIO NELSON JACKSON, M. D.
Surgery

FREDERICK E. CLARKE, M. D.
Obstetrics and Gynaecology; Laboratory Instructor in Histology and Pathology; Consulting Physician to the Fanny Allen Hospital

CLIFFORD A. PEASE, M. D.
Instructor in Neurology

ANNOUNCEMENT, 1901

The Medical Department of the University of Vermont is one of the oldest Medical Institutions in the United States. Anatomy and Surgery were taught by a Professor of those branches as early as 1809. Chemistry and Pharmacy, Botany and Materia Medica, and Physiology had professorships from 1821. In 1823 four men were graduated; in 1824, fifteen; in 1829, sixteen. From that point the number decreased till in 1836 there was only one graduate, and the department was suspended till 1854, when it was reorganized, and it has since been in continuous operation.

In 1899 the Trustees of the University took entire control of the Medical Department and will hereafter administer it as an integral part of the University. They will become responsible to the State and to the public for the care and use of any funds or other gifts in aid of Medical education. They hope in this way to secure endow-

ments for professorships, the means for the needed increase of buildings, and such additions from time to time to the apparatus and other facilities for instruction as will keep the department abreast of the most advanced Medical Institutions of the country.

The forty-ninth Annual Course of Instruction will begin Thursday, January 3, 1901, and continue until June 28.

The Four-Year System of Graded Study was adopted by this school in January, 1898, and this period of study is now an invariable requisite for graduation.

The Medical College Building, given to the University by the late John P. Howard, stands on Pearl Street, fronting the College Park. The lecture-room amphitheatre will seat three hundred and fifty students.

The Laboratories for Practical Chemistry, Physiology, Histology, Pathology, and Bacteriology, and the Dissecting Rooms for Practical Anatomy, are ample in size, and supplied with the modern conveniences and apparatus required for chemical experiments and physiological and anatomical demonstrations.

The Museum of the College contains a carefully arranged collection of specimens and preparations—many of them rare—illustrating both normal and abnormal structures. It is always open to students.

During the four years' course instruction will be given in the following branches: Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Practice, Obstetrics, Surgery, Diseases of Children, Ophthalmology and Otology, Pathology, and Bacteriology, Neurology, Diseases of the Mind, Hygiene, Medical Jurisprudence, Venereal Diseases, Orthopædic Surgery, Dermatology, Laryngology, and Gynæcology. This instruction is given by scholastic and clinical lectures, recitations and laboratory work. The curriculum includes laboratory courses in Urinary Analysis, Histology, Pathology and Bacteriology, and practical work in Physical Diagnosis, Surgery and Demonstrative Obstetrics, each student being required to take all

these courses, unless he present evidence of having taken the same in some other recognized institution. (See Requirements for Graduation, p. 103.)

CLINICAL ADVANTAGES

The Mary Fletcher Hospital was opened in 1876. It comprises an administrative building with many rooms for private patients, and two ample pavilion wards. In a second building connected with these by a corridor is an amphitheatre capable of seating two hundred persons. An anæsthetizing and a recovery room open into the amphitheatre. Rooms for out-patients are also attached to the building. In fact every arrangement for Clinical Instruction is provided. Medical and Surgical Clinics will be held in the amphitheatre during the entire session.

REQUIREMENTS FOR ADMISSION

Applicants will be required to pass an Entrance Examination in *Arithmetic, Grammar, Geography, Orthography, American History, English Composition* and *Elementary Physics* before they can be regularly enrolled as students in good standing in this department. But applicants who may have failed in one or more branches at these examinations may be enrolled as *conditioned* students; they must make up the deficiency however during the first year, before they can be enrolled as students in regular standing.

EXCEPTIONS:—Such entrance examination will not be required of applicants of any of the following classes:

1. Those who declare themselves *in writing* not to be candidates for the degree in Medicine from this College.

2. Those who have received the Bachelor's degree from a College or University which maintains a satisfactory academic standard.

3. Those who have passed satisfactorily the entrance examination to the Academic Department of any College or University which maintains a satisfactory standard.

4. Those who have passed the entrance examination to a Medical school having requirements for admission equivalent to those adopted by this Faculty.

5. Those who have received a Medical Student's Certificate from the Regents of the State of New York, or from any similarly constituted authority in other States.

6. Those who have received a Diploma or a Certificate for any ten studies from the Regents of the State of New York, or from any similarly constituted authority in other States.

7. Those who have satisfactorily completed a three years' course in High School, Normal School or Academy.

Examinations for entrance will be held in January, March and June. Detailed information in regard to examinations for admission to the Second or Third year of the course, also in regard to the conditions of advancement in course from year to year, will be found in the special Announcement of this Department.

Students coming from other colleges must present evidence of having passed an entrance examination equivalent to that demanded for admission to this school, or otherwise comply with the requirements for admission to the first year.

Students desiring to enter the Second Year must present evidence of having attended one regular term in an accredited medical college, with certificates of attendance in laboratory courses in histology and chemistry corresponding in extent to those given in this college during the first year. In the absence of such certificates the student will be required to take that laboratory course which he has not had, during his second year. Evidence is also required of dissection work during one regular term.

Students desiring to enter the Third Year must present evidence of having attended two regular terms at some other accredited med-

ical college or colleges, and must furnish certificates of attendance in laboratory courses in histology, chemistry and pathology corresponding in extent to those given in this college, and of dissection during two terms. In the absence of such certificates the student will be required to take such laboratory courses, or courses in dissection, as he has not had elsewhere, during his third year.

Students entering the third year must pass satisfactory examinations in the subjects of anatomy, physiology, chemistry and materia medica either at the beginning or at the close of the third year as they may elect.

Students desiring to enter the Fourth Year must present evidence of having attended three complete courses of instruction in some accredited medical college or colleges.

They must also present certificates of having taken laboratory courses in chemistry, histology and pathology and in physical diagnosis, practical surgery and practical obstetrics.

They will be required to pass a satisfactory *final* examination in anatomy, physiology, chemistry, materia medica and pathology.

COURSES OF INSTRUCTION

FIRST YEAR

During the first year the student receives instruction, both by recitations and didactic lectures, in Anatomy, Physiology, and Chemistry. Laboratory work in Chemistry and Histology, and Practical Anatomy by Dissection.

SECOND YEAR

During the second year more advanced instruction is given, by recitations and lectures, in the same branches of Anatomy, Physiology and Chemistry, to which are added recitations in Materia Medica and Pharmacology, and recitations in Surgery, Practice and Obstetrics. Laboratory work in Pathology and Urinary Analysis. Dissections continued.

THIRD YEAR

Recitations and Lectures in Materia Medica and Therapeutics, Surgery, Practice, Obstetrics and Gynæcology. Practical Courses in Physical Diagnosis, Minor Surgery and Bandaging, and Demonstrative Obstetrics upon the Manikin. Lectures on Toxicology and Pathology. Medical and Surgical Clinics at the Mary Fletcher Hospital.

FOURTH YEAR

Advanced instruction in Therapeutics, Surgery, Practice, and Obstetrics. Clinical instruction in Medicine and Surgery continued. Instruction by lectures and clinics in the special branches of Otology, Opthalmology, Laryngology, Neurology, Dermatology, Gynæcology, Pediatrics, Orthopædics, Mental Diseases, Genito-Urinary and Venereal Diseases, and Medical Jurisprudence.

Full information in regard to the several courses may be found in the special Bulletin of the Medical department.

Requirements for Advancement in Course

Attendance upon all the exercises of each year is obligatory, and unexcused absences will count as failures in computing the standing of students.

The work of each year is considered final of itself, and students are advanced from one year to the next upon the evidence that the work of the lower grade has been satisfactorily performed, obtained by examination and by class rating.

Students of the First year are passed to the Second when their work in the recitations, dissections, and laboratory exercises of the first year has been satisfactory, and when they have passed satisfactory examinations on the work of the first year in anatomy, physiology, histology and chemistry.

Second-year students are advanced to the Third year when their work in the exercises of the second year has been satisfactory and

when they have passed satisfactory examinations in anatomy, physiology, chemistry, laboratory, pathology and materia medica. The examinations in anatomy, physiology, and chemistry are final.

Third-year students are advanced to the Fourth year when they have satisfactorily completed the recitations, laboratory work and practical courses required for the third year; and when they have passed satisfactory examinations on the work of the year in surgery, practice of medicine, obstetrics, materia medica, therapeutics, pathology and toxicology.

Students who have failed to fulfil the requirements for passage from one grade to the next above in not more than two branches in the first year or in not more than three branches in the second and third years, will be advanced conditionally. If the failure has been in laboratory or dissection work, the work must be repeated satisfactorily during the following session. In other departments the condition may be removed at an examination which will be held for that purpose during the first month of the session. Students failing to remove conditions at this re-examination will be required to repeat the work in which they have failed, and will be again examined at the close of the session.

Students who fail in more than two branches of the work in the first year or in more than three branches in the second and third year will be required to repeat the work of that year.

Students who fail to take any examination at the close of any year will be classed as having taken the examination and failed to pass it, unless they shall have been excused from such examination by the faculty.

Requirements for Graduation

Four full courses of lectures, the last at this college, will be required of all students.

No candidate indebted to the college will be admitted to an examination.

Candidates for the degree of Doctor of Medicine must have attained the age of twenty-one years, and must present certificates of the time of study, of age and of moral character. Each candidate is required to deposit his examination fee with the Secretary of the Faculty one month before the close of the season.

He must present evidence of having satisfactorily completed the work of the first three years and must also pass satisfactory written or oral examinations in Materia Medica and Therapeutics, Practice of Medicine, Surgery and Obstetrics.

He must be present at Commencement unless excused by the Faculty.

Certificates of having passed in any branch or branches in other colleges will not be accepted by this college.

The tickets and diplomas of Eclectic, Homœopathic, or Botanic colleges will not be recognized.

Graduates of other regular Medical Colleges who desire a degree from this University, must pass a satisfactory examination in Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Practice of Medicine, Surgery, Obstetrics and Gross Pathology.

No credit in time or in lectures will be given any student, by virtue of his degree in Pharmacy or Veterinary Surgery.

The degree of M. D. *in absentia* is not conferred by this University.

The Faculty reserve the right to terminate the relation of any student with the Medical Department at any time, on adequate evidence of immoral character, want of principle, or intellectual unfitness for the medical profession.

Faculty Prizes

The Faculty have established two Prizes for general proficiency in examination—a First Prize of Fifty Dollars and a Second Prize of twenty-five Dollars. The prizes will be awarded as follows:

The ten students who pass the best examinations for their degree will be allowed to compete in a written examination for the prizes;

of this number, the five who ronks highest shall be called Honor Men, and will each receive a Special Diploma of Honor; and of these last, those who attain the first and second rank shall receive, respectively, the first and second prizes.

The Honor Men for 1900 were: Clarence H. Beecher, Peer P. Johnson, Harry R. Nye, Francis F. Joyner, Thomas H. Canning.

The First Prize was awarded to Clarence Henry Beecher; the Second Prize to Peer Prescott Johnson.

FEES

Matriculation Fee, payable each term	$ 5 00
Full Course of Lectures, each year	110 00
Single Ticket, for those who wish to take one or more subjects and not the whole course	20 00
Fee for graduation, payable once and not returnable	25 00

Graduates of other regular Medical Schools are admitted on payment of the matriculation fee and $25.00.

Graduates of this school are admitted without fee.

Theological students are admitted on payment of the matriculation fee only, unless intending to graduate in medicine, in which case they will be required to conform to the above conditions.

Each student is required to deposit $5.00 with the Treasurer. From this he will be which will be deducted the value of any bones taken from the museum which he may fail to return, and any charges for breakage in the laboratories. The remainder of such deposit, or the whole if there be no charge against it, will be returned to the student at the close of the term.

All fees must be paid to the Secretary, and are payable in advance.

BOARD may be obtained for from $3.50 to $5.00 per week. Good accommodations can be found for students who wish to board themselves. Many adopt this method at a great reduction in expense. Students who intend to board themselves will find such bedding and culinary articles as they may require furnished with the rooms.

After registering, every student is furnished with a certificate entitling him to reduced rates on railroad and steamboat lines running into Burlington.

[For special arrangements of the Academic Faculty for the accommodation of young men intending to study Medicine, see pages 46 and 47.]

For further particulars address the Secretary,

B. J. ANDREWS, M. D.,
Mary Fletcher Hospital,
BURLINGTON, VT.

STUDENTS

GRADUATE STUDENTS

NAME	RESIDENCE	ROOM
Arthur Woodbury Edson, A.B. 1900	*Cavendish*	6 N. C.
Clifton Durant Howe, A. B. 1898	*Newfane*	89 N. Prospect
Sophie Gates Kerr, A. B.	*Denton, Md.*	411 Main

SENIOR CLASS

Wellington Estey Aiken	LS	*Benson*	M. C.
Charles Hobart Atwood	EE	*Burlington*	27 Buell
Herman David Bone	Ag	*Wells River*	12 Exp. Station
Charles Irving Boyden	Ag	*Randolph Centre*	12 Exp. Station
Graton S. Brand	Ch	*Essex*	112 Loomis
Theron Cumins Brooks	CE	*Randolph*	31 N. C. H.
Elva Mabel Brownell	Cl	*Burlington*	196 S. Willard
Albert Wayne Butler	Cl	*E. Jamaica*	2 N. C. H.

Ag, Ch, Cl, LS, indicate Agricultural, Chemical, Classical and Literary-Scientific Courses. CE, EE, ME, stand for Civil, Electrical and Mechanical Engineering. N. C., S. C., M. C., stand respectively for North, South and Middle College; N. C. H., S. C. H., M. C. H., for North, South and Middle Converse Hall.

Ernest Hiram Buttles	Cl	*Brandon*	25 M. C. H.
Fred Wade Carrier	Cl	*Bennington*	12 S. C.
Patrick Michael James Corry	CE	*Montpelier*	5 N. C.
Marshall Baxter Cummings	Ag	*N. Thetford*	16 Exp. Station
John Grixston Currier	LS	*Rutland*	91 S. Union
Samuel Sibley Dennis, jr.	LS	*Hardwick, Mass.*	89 N. Prospect
Carroll Howard Drown	Cl	*Johnson*	37 Hyde
Helen May Ferguson	LS	*Burlington*	77 N. Union
Bernard Peter Finnegan	CE	*Hyde Park*	5 N. C.
Ivah Winifred Gale	LS	*Newport*	301 Maple
Kathryn Knee Gebhardt	LS	*Shelburne*	411 Main
George William Gilson	ME	*Bethel*	7 S. C.
Chauncey M. Goodrich, A. M.	CE	*Burlington*	483 Main
Clifford Burnham Griswold	ME	*Felchville*	35 N. C. H.
Aaron Hinman Grout	LS	*Derby*	32 N. C. H.
Inez Adelaide Grout	LS	*Derby Centre*	16 Booth
Mary Adelle Grout	LS	*Derby Centre*	16 Booth
Charlotte Frances Hale	LS	*Milton*	16 Booth
Margaret Mary Healey	LS	*Wallingford*	411 Main
George Henderson	Cl	*Burlington*	30 Chase
Charles Allen Kern	Ch	*Burlington*	72 S. Winooski
Henry Page Lapelle	ME	*Swanton*	43 M. C. H.
Edwin Winship Lawrence	Cl	*Rutland*	45 S. C. H.
George Samuel Lee	LS	*Irasburg*	5 S. C.
Arlington Pearl Little	EE	*Burlington*	342 Pearl
Ernest Nelson McColl	CE	*S. Ryegate*	45 N. C. H.
Harris David McDonald	Cl	*Swanton*	34 Hickok Pl.
Madge Elizabeth McElroy	LS	*Bakersfield*	170 N. Prospect
Alfred John McKellow	Cl	*Keeseville, N. Y.*	M. C.
Josephine Adelaide Marshall	Cl	*St. Johnsbury*	47 N. Prospect
Roy Sidney Morse	LS	*Montpelier*	89 N. Prospect
Florence Eliza Nelson	LS	*Burlington*	118 Pearl
Fred Jonathan Park	EE	*Lyndon*	13 N. C.
Earl Elkins Parker	ME	*Barre*	89 N. Prospect

Dean Homer Perry	Cl	*Barre*	89 N. Prospect
Edward Hanson Reed	Ch	*Burlington*	41 Loomis
Henry Stanley Renaud	Ch	*Burlington*	135 Elmwood
James Rhitenhouse Scott, jr.	LS	*New York, N. Y.*	5 S. C. H.
Dan German Seager	Cl	*Brandon*	10 N. C.
Howard Russell Smalley	Ch	*Burlington*	388 S. Union
Samuel Waldo Smith	ME	*Barre, Mass.*	35 N. C. H.
Duncan Stuart, B. S.	Ch	*Burlington*	59 N. Prospec
Allen Robert Sturtevant	LS	*New Haven*	7 S. C.
James Tyndall	Cl	*Morrisville*	1 N. C.
Albert Frank Ufford	Cl	*Fairfax*	3 N. C.
Frederick Paul Wadleigh	Cl	*E. Berkshire*	4 M. C. H.
Earle Hubbell Welles	CE	*Sunderland*	46 N. C. H.

JUNIOR CLASS

John Edward Adams	Cl	*Swanton*	42 S. C. H
Clayton Clifford Alexander	CE	*Burlington*	507 St. Paul
Alice Lillian Bean	Cl	*Newport*	411 Main
Luther David Beckley	CE	*Barre*	42 N. C. H.
Howard Slocum Booth	Ch	*Swanton*	249 Pearl
George Orin Bryant	Ch	*Williston*	6 S. C
Geneva Claire Carpenter	LS	*Brookfield*	177 S. Prospect
Silas Ralph Carpenter	LS	*Richford*	100 Church
Genevieve Collins	Cl	*Burlington*	57 Loomis
May Conro	LS	*South Hero*	16 Booth
Alice Harriett Derby	LS	*Essex Junction*	411 Main
James Edward Donahue	LS	*Essex Junction*	Essex Junction
Florence Louise Douglas	Cl	*West Haven*	2 Colchester
Bertha Isadore Field	LS	*N. Springfield*	411 Main
Grace Anna Goodhue	LS	*Burlington*	301 Maple
Charles Edwin Goodwin	LS	*Kennebunkport, Me.*	89 N. Prospect
Willard Levi Goss	Ag	*St. Johnsbury*	13 Exp. Station
Leon Everett Grout	Ag	*Newfane*	11 Exp. Station

Mary Wheaton Hall	LS	*Rutland*	483 Main
John Nelson Harvey	LS	*Montpelier*	89 N. Prospect
Fayette Elmore Hubbard	Ag	*Burlington*	39 Greene
Harold Frederick Huntley	Ch	*Essex Junction*	Essex Junction
Abbott Trask Hutchinson	Cl	*Burlington*	45 S. C. H.
Elizabeth Converse Johnson	Cl	*Burlington*	74 Adams
Arthur Leon Kelly	Ch	*Lowell, Mass.*	25 N. C. H.
Nelson Kellogg	Cl	*Plattsburgh, N. Y.*	41 M. C. H.
George Eugene Lamb	EE	*Stockbridge*	1 N. C.
James McEwen Larabee	EE	*Craftsbury*	9 N. C.
Forrest Metcalf Larchar	Ch	*Webster, Mass.*	46 S. C. H.
Anna Mary Lilley	Cl	*Hyde Park*	49 Buell
Fred Clarence Locke	LS	*Springfield*	31 S. C. H.
Howard Lucius Martin	Cl	*Washington, D. C.*	21 M. C. H.
Louis Fuller Martin	CE	*Washington, D. C.*	21 M. C. H.
Lysander Herbert Merrihew	Ch	*S. Burlington*	Spear
Maud Leonora Merrihew	LS	*S. Burlington*	Spear
Floyd Arkley Miller	ME	*Newport*	3 M. C. H.
George Glenn Morse	EE	*Morrisville*	89 N. Prospect
Levi Miller Munson	Cl	*Morrisville*	89 N. Prospect
Martin Albert Pease	CE	*Springfield, Mass.*	32 N. C. H.
Cassius Reuben Peck	Cl	*Burtington*	Exp. Farm
James Burnham Porter	Cl	*Rutland*	60 Buell
William Eli Putnam	CE	*Springfield*	36 N. C. H.
Don Martin Rice	EE	*Westford*	89 N. Prospect
Irving Lyman Rich	LS	*Richville*	1 N. C.
Rodman Hazard Robinson	Cl	*Middleburgh, N. Y.*	8 S. C.
William Edson Ross	Cl	*Franklin Falls, N. H.*	35 M. C. H.
John Elliot Seaver	ME	*Quechee*	45 N. C. H.
Donna Marie Slater	LS	*Essex Junction*	69 Buell
Harry Brydon Spencer	EE	*Proctor*	4 S. C.
Leonard Pearsons Sprague	Ag	*East Randolph*	13 Exp. Station
Arthur Duane Stearns	Cl	*Burlington*	35 Loomis
Ethel Marilla Stevens	LS	*Williston*	60 Buell

Reuben Richardson Strait	Ag	*Fairfax*	15 Exp. Station
Frank Goodspeed Taylor	EE	*Poultney*	22 N. C. H.
Richard Hills Taylor	Cl	*Proctor*	2 N. C.
Julius Arthur Tellier	Cl	*Felchville*	41 S. C. H.
Carl Noyes Thomas	EE	*Lowell, Mass.*	4 S. C.
James Obadiah Walker	LS	*Burlington*	91 N. Union
Arthur Day Welch	EE	*Sharon*	89 N. Prospect
John Martin Wheeler	Cl	*Burlington*	335 S. Union
Carey Persia Williams	LS	*Burlington*	193 S. Union
Adin Cyprian Woodbury	ME	*Perkinsville*	16 S. C.
Maxwell Eugene Woodward	ME	*Ludlow*	133 King

SOPHOMORE CLASS

Leighton Emerson Abbott	Cl	*Randolph*	57 N. Union
Frederika Abraham	LS	*Rutland*	411 Main
Harold James Adams	LS	*West Haven*	3 N. C.
George Percival Auld	Cl	*Burlington*	424 S. Union
George Edward Baldwin	EE	*Burlington*	85 King
Arthur Sanders Bean	Cl	*Randolph*	25 Lafayette Pl.
Murray Bourne	LS	*Burlington*	35 N. Union
John Frank Bowen	CE	*Adams, Mass.*	5 N. C. H.
George David Brodie	Cl	*Burlington*	378 S. Union
John Wilson Church	ME	*Bellows Falls*	407 College
Earnest Dwight Clapp	CE	*Burlington*	177 S. Prospect
Helen Gordon Clark	LS	*Vergennes*	407 College
Mary Ethel Colburn	Cl	*Union Village*	112 Loomis
Walter Alden Dane	Cl	*Newport*	42 S. C. H.
Lyman Moses Darling	Cl	*Garfield*	16 N. C.
James Haworth Eaton	Cl	*Burlington*	170 N. Prospect
Willard Ethni Evans	Ag	*Bennington*	14 Exp. Station
William Reynolds Farrington	LS	*Brandon*	25 M. C. H.
Ralph George Gibson	Cl	*Ryegate*	57 N. Union
Oliver Bowen Gilbert	Ag	*Dorset*	64 Colchester

Fred Butterfield Gill	Cl	*Springfield*	26 N. C. H.
Blossom Franklin Goodrich	LS	*Richmond*	85 S. Willard
Hollis Edward Gray	Cl	*Cambridge*	89 N. Prospect
Hervey Paul Gulick	Cl	*Charlotte*	119 N. Willard
Roy Herbert Harvey	ME	*Newport*	41 N. C. H.
Hattie Mason Hodge	Cl	*Burlington*	88 N. Prospect
Fred Martin Hollister	Ag	*Bennington*	14 Exp. Station
Willard Eugene Holman	CE	*Randolph*	4 N. C.
Harry Pratt Hudson	EE	*Bennington*	25 S. C. H.
John Martin Hunt	ME	*East Peacham*	45 M. C. H.
Clarence R. Hutchinson	EE	*Benton Harbor, Mich.*	5 M. C. H.
Alanson Halden Jones	Cl	*Burlington*	433 S. Union
Geneva Aurora Jones	LS	*Northfield*	179 N. Prospect
Harry Bliss Joyner	Cl	*Burlington*	29 S. Willard
Ira Phelps Kellogg, jr.	Cl	*Monkton*	15 S. C.
Earl Brush Kingsland	LS	*Vergennes*	26 N. C. H.
Howard Harrington Marsh	CE	*Winchendon, Mass.*	100 Church
Charles Palmer Merrill	EE	*Fairfield*	45 M. C. H.
Crosby Miller	CE	*Washington, D. C.*	407 College
Cornelia Elva Nott	LS	*Burlington*	Proctor Ave.
Clinton James Parker	ME	*North Hero*	140 Colchester
Florence Nichols Post	Cl	*St. Albans*	411 Main
George Ernest Robbins	LS	*Pownal*	14 N. C.
Daisy Lottie Russell	LS	*Burlington*	23 Hickok Pl.
Haroutioun Selian	EE	*Caisery, Armenia*	20 S. C.
Clarence Hiram Senter	Ch	*Montpelier*	35 S. C. H.
Aurelius Morse Shields	LS	*East Craftsbury*	9 N. C.
LeRoy Holton Shipman	Ch	*Winooski*	Winooski
Albert Orange Smith	CE	*Barre*	42 N. C. H.
Luther Pike Cheney Smith	ME	*St. Johnsbury*	177 Pearl
Cora Elizabeth Talbot	LS	*Stottville, N. Y.*	411 Main
Arthur Hastings Tenney	EE	*S. Royalton*	10 S. C.
Warren Horace Tenney	EE	*S. Royalton*	10 S. C.
Mary Louise Tracy	LS	*Shelburne*	23 Hickok Pl.

Arthur Hopson Valiquette	ME	*Rutland*	25 S. C. H.
Charles Hugh Waddell	LS	*Johnsburgh, N. Y.*	1 N. C. H.
Henry Wallace	Cl	*Poughkeepsie, N. Y.*	5 S. C.
George Frederick Wells	Ag	*Bakersfield*	20 Exp. Station
Richard Dudley Wilson	CE	*Bethel*	56 Church
John Gordon Wills	Ag	*Chateaugay, N. Y.*	17 Exp. Station
Clarence Field Worthen	Ch	*Barre*	21 S. C. H.
John Stratton Wright	Cl	*Burlington*	4 Loomis
Daniel Albert Young	CE	*Cherry Valley, N. Y.*	4 N. C.

FRESHMAN CLASS

Edith Abigail Abbott	Cl	*Randolph*	35 Colchester
William Burnham Alexander	E	*Melrose, Mass.*	5 N. C. H.
John Henry Ayres	E	*Bennington*	2 S. C. H.
Harry Barker	E	*Rutland*	22 S. C. H.
Hubert Merle Bassett	E	*Taunton, Mass.*	2 Colchester
Norton Dickinson Beach	Ch	*Burlington*	114 Buell
Lillie Adriance Bean	Cl	*St. Albans*	108 Loomis
Charles Raymond Beers	E	*E. Charlotte*	57 N. Union
Fannie Judith Boswell	LS	*Richford*	229 Colchester
Frederick Sumner Briggs	Cl	*Brandon*	31 M. C. H.
Joseph Harold Brown	Ch	*Newburyport, Mass.*	13 S. C.
Chauncey Sherman Brownell	E	*Burlington*	196 S. Willard
John Henry Budd	LS	*Enosburg Falls*	70 N. Union
Maurice Augustus Burbank	E	*Plympton, Mass.*	36 S. C. H.
Harry Cragin Burrows,	C&E	*Burlington*	299 S. Union
Leslie Sumner Carpenter	E	*Morrisville*	89 N. Prospect
Arthur Henry Cashin	E	*Lowell, Mass.*	25 N. C. H.
Frank Wilbut Chamberlain	Ag	*Springfield*	468 College
Jay Allen Chamberlin	E	*Grand Isle*	133 King
Claud Raymond Chapin	LS	*Essex*	72 Green
Michael John Clancy	E	*Bakersfield*	150 Loomis
Arthur William Clark	Ch	*Glover*	11 S. C.

Henry Chamberlain Clement	E	*Burlington*	182 Pearl
Leroy Bloom Cramer	E	*Mechanicsville, N. Y.*	23 M. C. H.
Harry Edward Cunningham	Cl	*Hoosick Falls, N. Y.*	15 Weston
Richard Francis Darling	Ag	*Newbury*	44 M. C. H.
Roger Sherman Derby	Ch	*Springfield*	22 N. C. H.
William James Dodge	Cl	*Burlington*	55 Loomis
William Frank Dunnells	LS	*Hardwick*	18 S. C.
Stewart Oscar Elting	E	*Burlington*	42 N. Prospect
R. Dwight Hitchcock Emerson	Cl	*Burlington*	56 Summit
Belmont Alden Fogg	Ch	*Newburyport, Mass.*	13 S. C.
Anna Elizabeth Gilbert	LS	*Dorset*	64 Colchester
Alfred Holley Gilbert	Ag	*Dorset*	64 Colchester
William Williams Gilbert	Ag	*Dorset*	64 Colchester
Elmer Ellsworth Gove	LS	*S. Burlington*	Shelburne
Sherwood Estabrook Hall	Cl	*Brandon*	31 M. C. H.
Ralph Quincy Hamilton	E	*Newport*	44 M. C. H.
Helen Christine Hanna	LS	*Washington, D. C.*	411 Main
Delia Nellie Harding	LS	*Copperfield*	92 Adams
Nathaniel George Hathorne	Ch	*Burlington*	470 S. Union
Samuel Clarke Hood	Ag	*Topsham*	11 Exp. Station
Samuel Thatcher Hubbard	Cl	*Rutland*	46 S. C. H.
Harold Irving Huey	Ch	*Springfield*	85 S. Willard
Walter Minott Jenkins	Ch	*Springfield*	85 S. Willard
Walter Ware Johonnott	Cl	*Burlington*	236 S. Union
Lucius Hinckley Jones	Ag	*Burlington*	361 S. Union
Frank Caleb Kelton	LS	*St. Albans*	36 N. C. H.
Frank Harold Kimball	E	*Cabot*	46 N. C. H.
John Charles Kirley	E	*Sheldon*	137 Mansfield
George Murray Leach	E	*Fletcher*	150 Loomis
Franklin Benjamin Lee	LS	*Burlington*	96 S. Union
William Carleton Lewis	LS	*Champlain, N. Y.*	112 Loomis
Frances Louise Little	LS	*Winooski*	Winooski
Joseph James Lusk	E	*Corinth, N. Y.*	2 N. C.
Leonard James Mack	Cl	*Vergennes*	292 College

Warren William Mack	E	*Hardwick*	182 Pearl
Durant Loomis Macrae	Cl	*Burlington*	115 Buell
Roy William Marshall	Ch	*Rutland*	22 S. C. H.
Bertha Marie Miller	Cl	*Lowell, Mass.*	45 School
William Martin Mulheron	Cl	*Burlington*	93 Elm
Thomas Henry O'Halloran	E	*Marlboro, Mass.*	5 M. C. H.
George Lee Orton	Ch	*Fairfax*	14 S. C.
Harry Hawthorne Page	Cl	*Hinesburgh*	9 Latham Ct.
Mildred McEwen Partch	LS	*Hinesburgh*	9 Latham Ct.
Roscoe Freeman Patterson	E	*Newbury Ctr.*	11 N. C.
Harry Spaulding Percival	E	*Burlington*	349 Pearl
Gertrude Louise Perry	LS	*St. Albans*	133 Loomis
Leon Marsh Phelps	Ch	*East Highgate*	60 Clarke
Carl Stone Pomeroy	LS	*Enosburg Falls*	245 Loomis
Arthur Edward Pope	E	*Burlington*	371 Main
Carrie Louise Preston	Cl	*Felchville*	35 Colchester
Charles Allen Riley	Cl	*Ludlow*	5 M. C. H.
Jacob Johnson Ross	Ag	*Huntington*	69 College
George Albert Russell	Ag	*Bristol*	20 Exp. Station
Arthur Hayes Sargent	Cl	*East Corinth*	205 S. Prospect
Edward Thomas Shaw	E	*E. Arlington*	2 S. C. H.
John Calvin Sherburne, jr.	Cl	*N. Pomfret*	26 S. C. H.
Durrell Clarence Simonds	Ch	*Burlington*	203 Maple
William Leo Smith	E	*Randolph*	63 King
Helen Betsey Somers	LS	*Irasburg*	18 Clarke
Reuben Lee Soule	Ch	*E. Fairfield*	60 Clarke
Charles Wilbur Spear	E	*Burlington*	86 N. Winooski
Irwin Spear	LS	*Burlington*	174 Maple
Seth Clement Towle	Ag	*Enosburg Falls*	245 Loomis
Cornelius Pryce Valleau	LS	*Wolcott*	6 S. C.
Lewis Nelson VanVliet	LS	*Shelburne*	Shelburne
Guy Robert Varnum	E	*Jeffersonville*	92 Brooks
Daniel Michael Walsh	Ag	*Rutland*	Exp. Station
Olin Warren Webster	LS	*Irasburg*	11 S. C.

James Arthur Wellington	E	*Fitchburg, Mass*	1 S. C. H.
Charles Holmes Wheeler	LS	*S. Burlington*	Dorset
Henry Orson Wheeler, jr.	Cl	*Burlington*	335 S. Union
Charles Romeo Wilder	Cl	*Burlington*	249 Pearl
Arthur Leroy Williams	Cl	*Winchendon, Mass.*	115 Buell
Harold Lyman Williamson	LS	*Bristol*	2 Colchester
Lauren Sidney Willis	Ag	*Portland, Me.*	34 M. C. H.

SPECIAL STUDENTS

Elsie Imogene Bristol	*Vergennes*	229 Colchester
Ralph Ludford Butler	*Burlington*	183 College
Edith Wynne Jones	*Poultney*	2 Hickok Pl.
Helen Lida Hodge	*Burlington*	88 N. Prospect
Mary Elizabeth Rustedt	*Richford*	411 Main
Elizabeth Marion Sawyer	*Essex Junction*	Essex Junction
Susan Hills Tabor	*Burlington*	41 S. Prospect

MEDICAL STUDENTS, 1900

FIRST-YEAR CLASS

Frank Cook Abbott.....*Pittston, Pa.*
Gordon Charles Abel.....*Enosburgh Falls*
Dell Beeman Allen, Ph. B. 1900 .....*Burlington*
Edgar Eugene Barker.....*Portland, Me.*
William Henry Black .....*Burlington*
Alexander Borland.....*St. Johnsbury*
David R. Brown.....*Tilton, N. H.*
Emerson M. Bushnell.....*Williston*
Benjamin J. Butler .....*Crompton, R. I.*

Irving Lee Chapman.....*Oneonta, N. Y.*
Henry Lee Crahan.....*Chittenden*
Charles Francis Dalton.....*Springfield, Mass.*
Jesse Judson Dearborn.....*Milford, N. H.*
Holland Abbott Danforth.....*Peabody, Mass.*
Frank H. Dunbar.....*Swanton*
Thomas Edward Duffee.....*Lowell, Mass.*
Albert Clinton Eastman.....*Barnard*
George Crafton Enright.....*Burlington*
Arthur Randolph Green .....*New York City*
Alexander Rufus Hagerty.....*Ellsworth, Me.*
William Francis Hamilton.....*Millers Falls, Mass.*
Dennis Bartholomew Healy.....*Wheelright, Mass.*
Carl Morton Howe .....*St. Johnsbury*
William Henry Hurley.....*Northfield*
Chauncey Earle Hunt.....*Northfield*
Guy Elder Loudon.....*Burlington*
Patrick Henry Mangan.....*Pawtucket, R. I.*
M. T. Mayes .....*Rutland*
Howard Fellows Morse.....*Centre Harbor, N. H.*
Roy Hamilton Peck.....*Burlington*
Louis Thomas Perkins.....*Saratoga Springs, N. Y.*
Harry Bradford Perkins.....*Bakersfield*
Frank Preston.....*Vergennes*
Charles Fdward Robson.....*East Boston, Mass.*
Samuel Dudley Rumrill.....*Springfield, Mass.*
Henry Elijah Somers.....*Barton Landing*
Frank Elijah Spear.....*Charlotte*
Fenwick Gordon Taggart.....*Burlington*
Percy Cyrus Templeton .....*Irasburgh*
John Edward Vallie .....
Louis Francis Wheatley.....*Meriden, Conn.*
Charles Flagg Whitney.....*Williston*
Chauncey Warner Willey.....*Cambridge*

SECOND-YEAR CLASS

Grant Comstock Benjamin ..... *Rochester, N. Y.*
Henry Tierney Bray ..... *Hartford, Conn.*
Harry Obed Brown ..... *Lehman, Pa.*
Maurice Ozro Brown ..... *East Dover, Me.*
Aubery Brendon Call, A. M. ..... *Peterboro, N. H.*
Sheldon Samuel S. Campbell ..... *St. Albans*
James Mott Crumb ..... *South Otselic, N. Y.*
Hugh Francis Dolan ..... *Bangor, Me.*
Frank Floyd Finney, Ph. B., 1899 ..... *Hinesburgh*
James Edward Fitzgerald ..... *Burlington*
David Harris Gatchell ..... *Old Town, Me.*
William Albert Goodrich ..... *Craftsbury*
Ransom Alphonso Green ..... *Oneonta, N. Y.*
Otto Vernon Green ..... *Bethel*
Charles Sylvanus Harris ..... *Keene, N. H.*
Robert Burnes Harriman ..... *St. Johnsbury*
Perley Harriman ..... *Burlington*
Roland John Harvey ..... *East Burke*
Edward Allen Heath ..... *Burlington*
Henry Wade Hopkins ..... *Essex Junction*
Roland Child Jones ..... *Woodsville, N. H.*
Joseph William Kenney ..... *Philadelphia, Pa.*
Henry Allen Lamb ..... *Portland, Me.*
John Patrick Lenahan ..... *Hudson, N. H.*
Willard Wallace Lemaire ..... *Taunton, Mass.*
Burton Edward Larrabee ..... *Prospect, Me.*
Frank C. Lewis ..... *Burlington*
Henry William Lloyd ..... *Blandford, Mass.*
Lawrie Byron Morrison ..... *Ryegate*
John J. O'Brien ..... *Schenectady, N. Y.*
George Harvey Parmenter ..... *Montpelier*
Charles Winfield Phillips ..... *Arlington*

William Rathburn Rowland ..... *East Corinth*
George Clute Reid ..... *Rome, N. Y.*
Burt Leon Richardson ..... *Gorham, N. H.*
Clifford Walter Sumner ..... *Pownal*
Ernest Elliot Sparks ..... *Williamsville*
Caleb William Sommerville ..... *Kings Co., N. B.*
George Southwick Thompson ..... *West Medway, Mass.*
Thomas Walsh, Jr ..... *Middletown, Conn.*
Robert Moore Wells ..... *Barton*

THIRD-YEAR CLASS

Francis Joseph Arnold ..... *Burlington*
Joseph Antoine Archambault ..... *Enosburgh Falls*
Henry House Beers ..... *Bridgeport, Conn.*
William Alva Brady ..... *Patterson, N. J.*
Edgar Thompson Flint ..... *Foxcroft, Me.*
Clifford Parker Holt ..... *Barre*
Henry Abner Ladd ..... *North Hero*
Leo Alexander Newcomb ..... *Waterbury Centre*
Edward Sheehan ..... *North Creek, N. Y.*
Watson Lovell Wasson ..... *Burlington*
Isaac Henry Wight ..... *Milan, N. H.*

THIRD-YEAR MEN OF THREE-YEAR COURSE

Walter Brainard Allen ..... *St. Johnsbury*
Nathan Meredith Babad ..... *New York, N. Y.*
Charles Atwood Bates, Ph. B. 1896 ..... *Royalston, Mass.*
Clarence Henry Beecher ..... *West Pawlet*
Guy Claxton Boughton ..... *Buffalo, N. Y.*
Harry Carter ..... *South Manchester, Conn.*
John Lincoln Campbell ..... *Rochester*

Earl Percy Cushman.....*Branford, Conn.*
Thomas Henry Canning.....*Burlington*
Richard Cohn. .....*New York City*
Albert Hobart Damon.....*Charlotte, Me.*
Thomas Benton Dearborn.....*Milford, N. H.*
Warren L. Dillen.....*Buffalo, N. Y.*
Carl Boright Dunn, A. B. 1894.....*Abercorn, P. Q.*
William James Guinan.....*Albany, N. Y.*
Harrison Henry Hayward.....*Randolph*
Thomas Henry Hack, A. B.....*Orwell*
Alva John Holmes.....*Buffalo, N. Y.*
Alfred Taylor Hawes, A. B. Amh.....*Burlington*
Joseph Howard Hines.....*Atlanta, Ga.*
Peer Prescott Johnson, A. B. 1898.....*Burlington*
Francis Fletcher Joyner.....*Burlington*
William R. Kinson.....*Burlington*
William Jonathan Lein.....*Orange, N. J.*
Arthur Hubert Longstreet .....*New York City*
Leon Elden Libby.....*Bridgeton, Me.*
Albert Fay Lowell, A. B. 1898.....*Burlington*
David Marvin.....*Alburg*
Robert Mowe Mahlman.....*Lubec, Me.*
Frederick William McKibbon.....*St. Stephens, N. B.*
John Edward Mayers.....*Boston, Mass.*
Harry Royal Nye.....*Coventry*
Nelson Estes Nichols.....*Brookfield, Mass.*
James Francis O'Brien.....*Bellows Falls*
Henri Pache.....*Pittsfield, Mass.*
Arthur Elisha Platt .....*Burlington*
George Millar Sabin, B. S. 1896.....*Malone, N. Y.*
Samuel Schiffman .....*New York City*
William Moller Schroeder .....*New York City*
Harry Rabe Sharp.....*Bristol, Conn.*
Dennis Miner Shea.....*Nashua, N. H.*

William Taft Tilley.....*South Burlington*
Frank Lincoln Tozier, A. M.....*Fairfield Centre, Me.*
George Henry Towle, Jr.....*Deerfield, Mass.*
Benjamin Van Magness.....*Chelsea, Mass.*
William Harold Van Strander.....*Hartford, Conn.*
Vance William Waterman.....*Burlington*
Ernest Oliver Winship.....*Manchester*
Harry Monroe Wyman.....*Hubbardston, Mass.*
Frederick Buell Willard, A. B. 1897.....*Burlington*

DAIRY STUDENTS, 1900

A. J. Ball, *North Troy*
M. E. Bemis, *Marshfield*
A. P. Bigelow, *Wolcott*
G. L. Bicknell, *Underhill Centre*
J. P. Boylan, *East Fairfield*
M. K. Bruce, *Passumpsic*
F. J. Burns, *Crown Point, N. Y.*
H. W. Clark, *West Glover*
C. L. Covey, *Westfield*
F. E. Cree, *Plainfield*
H. L. Dean, *Taunton, Mass.*
E. W. Donoway, *Vergennes*
C. F. Eddy, *Waitsfield*
R. W. Eno, *Charlotte*
G. A. Elms, *Lyman, N. H.*
F. A. M. Estell, *Newport Centre*
M. G. Farnham, *N. Haverhill, N. H.*
H. G. Farr, *Westminster*
L. F. Goss, *Walden*
W. J. Hawkins, *West Pawlet*
Le G. Herrick, *Pawlet*
J. A. Hooper, *North Cambridge*
E. S. Howard, *West Hartford*
A. C. Huggins, *Cornish Flat, N. H.*
F. A. Jacobs, *Shelburne*
L. A. Lupine, *Lyman, N. H.*
Etta W. Lepage, *Barre*
E. Mischler, *Shoreham*
J. C. Newton, *Essex*
W. L. Phillips, *Enosburgh Falls*
M. W. Reynolds, *Lowell*
G. V. Roberts, *Shoreham*
M. C. Robinson, *Fairlee*
H. J. Sargent, *Windsor*
F. M. Small, *Morrisville*
H. H. Small, *Morrisville*
G. I. A. Smith, *Morrisville*
E. Thompson, *Colchester*
A. W. Tichurst, *West Glover*
E. A. Towne, *St. Johnsbury*
J. G. Warren, *Poultney*
H. O. Whitney, *Williston*
S. E. Wright, *Bristol*

DEGREES CONFERRED IN 1899-1900

HONORARY

DOCTOR OF LAWS

Gen. RUSH CHRISTOPHER HAWKINS, New York City

Hon. HENRY WAYLAND HILL, 1875, Buffalo, N. Y.

DOCTOR OF SCIENCE

EDWARD BURNETT VOORHEES, A. B. Rutgers 1881

IN COURSE

DOCTOR OF MEDICINE

Walter Brainard Allen
Nathan Meredith Babad
Charles Atwood Bates, Ph. B. 1896
Clarence Henry Beecher
Guy Claxton Boughton
John Lincoln Campbell
Thomas Henry Canning
Richard Cohn
Earl Percy Cushman
Albert Hobart Damon
Carl Boright Dunn, A. B. 1894
William James Guinan
Thomas Henry Hack, A. B.
Alfred Taylor Hawes, A. B. Amh.
Harrison Henry Hayward
Joseph H. Hines
Alva John Holmes
Peer Prescott Johnson, A. B. 1898
Francis Fletcher Joyner
William Riply Kinson
Arthur Hubert Longstreet
Albert Fay Lowell, A. B. 1898
Robert Mowe Mahlman, A. M.
David Marvin
John Edward Mayers
Frederick William McKibbon
Nelson Estes Nichols
Harry Royal Nye
James Francis O'Brien
Henri Pache
Arthur Elisha Platt
George Miller Sabin, B. S. 1896
Harry Rabe Sharpe
William Taft Tilley
George Henry Towle, Jr
Benjamin VanMagness
William Harold Van Strander
Frederick Buell Willard, A. B. 1897
Ernest Oliver Winship
Harry Monroe Wyman

Bachelor of Arts

Guy Winfred Bailey
Horatio Nelson Drury, *cum laude*
Arthur Woodbury Edson
Delano Eugene Farr
Glenn Carlos Gould
Mary Wilson Harrison
Frederick William Hubbard
James Chesterfield Jones
Robert Douglas Kellogg
Joshua B. Kirkpatrick, *cum laude*
Alice Josephine Morris
Thomas Reed Powell, *cum laude*
Charles Marcellus Sturgess
Jesse Weston Tobey
Charles Amasa Tracy
Orville Gould Wheeler
Walter Byron Williams, *cum laude*

Bachelor of Philosophy

Lee Clark Abbott
Dell Beeman Allen
Fannie Howe Atwood, *cum laude*
Amy Maud Burt
Edith Louise Carpenter, *cum laude*
John Lowe Fort, Jr.
Arthur Edward Lovett
Walter Wallace Tyler

Bachelor of Science in Civil Engineering

Harry Chester Libby
Wilbur Cyrus Sawyer, *cum laude*

Bachelor of Science in Mechanical Engineering

Arthur Boyce *cum laude*
Edwin Ellsworth Miller
Henry Bigelow Oatley
Louis Philip St. Cyr

Bachelor of Science in Electrical Engineering

John Morrill Downer
James Leslie Mackay
Charles Tidd Murray
Charles Robert Young

Bachelor of Science in Chemistry

James Hawley Aiken
Royden Eugene Beebe, *cum laude*
Guy Philbrick Lamson
Napoleon Arthur Laury
Carroll Dunham Partridge

BACHELOR OF SCIENCE IN AGRICULTURE

William Dougald Grant
Frederick Russell Pember
Perley Spaulding
Oscar Bradford Wood

HONOR LIST, 1899-1900

Class of 1900

GENERAL HIGH STANDING

Arthur Boyce
Joshua Bartlett Kirkpatrick
Fannie Howe Atwood
Edith Louise Carpenter
Royden Eugene Beebe
Horatio Nelson Drury
Thomas Reed Powell
Walter Byron Williams
Wilbur Cyrus Sawyer

SPECIAL HONORS

Greek:—Guy Winfred Bailey
Horatio Nelson Drury
Joshua Bartlett Kirkpatrick
Walter Byron Williams
French:—Fannie Howe Atwood
German:—Frederick William Hubbard
Joshua Bartlett Kirkpatrick
Philosophy:—Amy Maud Burt
Political Science:—James Chesterfield Jones
Chemistry:—Napoleon Arthur Laury

SPEAKERS AT COMMENCEMENT

Royden Eugene Beebe
Amy Maud Burt
Horatio Nelson Drury
John Lowe Fort, Jr.
Mary Wilson Harrison
Joshua Bartlett Kirkpatrick
Thomas Reed Powell
Charles Marcellus Sturgess
Charles Amasa Tracy